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# ***JPRS Report***

# **Environmental Issues**

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JPRS REPORT ENVIRONMENTAL ISSUES

NATIONAL TECHNICAL INFORMATION SERVICE  
SPRINGFIELD, VA

JULY 1992

# Environmental Issues

JPRS-TEN-92-013

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7 July 1992

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## ANGOLA

### Conference Views Future of National Parks

92WN0507A Luanda JORNAL DE ANGOLA  
in Portuguese 26 Mar 92 p 3

[Article by Pereira Santana: "Fauna and Flora: There Is Still Time for Us To Do Something"]

[Text] The "epidemic" faced by the Angolan national parks and reserves has brought together nearly 150 experts and authorities on the subject in addition to officials from the Ministry of Agriculture and Rural Development [Minader] and other guests. This meeting, which began yesterday in Luanda and is titled "First Days of Reflection on Parks and Reserves," is focusing on the various problems that these parks and reserves present in the management, development, and evaluation of those privileged areas of nature conservation in order to recommend feasible and ecologically appropriate solutions to the organizations.

The achievement of these objectives is still being analyzed in terms of the development of tourism, the domestication of wild species for herding, and the development of research and experimentation around the protected areas, as well as other relevant aspects of life in the protected areas.

Speaking at the opening session, the minister of agriculture and rural development, Isaac dos Anjos, stressed that all these problems await "solutions capable of putting an end to the aggressiveness that has been depleting our parks and reserves, thus guaranteeing that the rich fauna and flora of Angola will endure for future generations."

He went on to stress that "if we do not, history will hold us at fault for the disappearance of various species, such as the royal palanca [a species of antelope], which is at risk of becoming extinct."

Of the documents presented at yesterday's session, special prominence should go to "Information Concerning the Current Situation of Parks and Reserves," which generally mirrors the main problems that are causing devastation in that sector.

Topics related to "Hunting and Hunting Areas" and the "Principles of Capitalizing on Tourism in the Parks and Reserves" will likewise merit special attention from the participants in the "First Days of Reflection on National Parks and Reserves."

### Who Saves The Country's Parks and Reserves...(?)

Created officially in the 1930's in Angola as a result of the London Conference on the Conservation of Flora and Fauna (1933), the areas considered protected (national parks and reserves) are currently facing a rather worrisome situation with regard to their management

and generation of revenue, which has been aggravated by the lack of administration and supervision in the last few years.

In his presentation, Dr. Manuel Enock described the importance of the protected areas. He also deemed it important to conserve samples or complete systems of natural value, protect hunting resources, develop environmental education, and offer opportunities for public recreation, as well as to serve research and other scientific ends.

Manuel Enock further specified that the existing legislation on the protection of natural areas in Angola consists of the directive contained in Decree No. 400460/55 by the Portuguese government, which set out the principles aimed at protecting the soil and plant and animal life in the former Portuguese colonies.

The presentation stressed that the national plant and wildlife conservation network in the People's Republic of Angola includes 38 protected areas in three main categories, including seven national parks, 20 forest reserves, two natural reserves, four partial reserves, and five public game preserves.

The total of these areas covers a surface area of 188,660 square km, which is equivalent to 15.1 percent of the total area of the country. From Manuel Enock's point of view, the situation could generally be considered "good," in view of the fact that it exceeds the U.N.-established minimum of 10 percent of the country's surface area.

Thus, the goal of enlarging the national network of these areas (which boast of marvelous landscapes and flora representative of almost all the country's species and which support varieties of African wildlife, such as giant black palancas, elephants, zebras, hippopotamuses, giraffes, gorillas, and monkeys among the 275 species of mammals registered, and an inventory of birds estimated at 872 species catalogued) is to make the national network of these areas adequate to cover the vast and varied ecosystems.

On this basis, it was proposed in 1974 to create new areas in various provinces with the status of regional parks and integral reserves, namely the Regional Natural Parks of Ruacana (Cunene) and Tundavala (Huila).

### Current Situation of the Protected Areas

According to studies begun during the 1970's, the Angolan national parks and reserves did not satisfy international criteria due to human occupation, cattle, itinerant agriculture, petroleum extraction, illegal hunting, and the lack of financing and equipment that are prevalent there.

These factors are advancing in significant proportions, giving rise to profound changes in many of those areas, in particular the forest reserves, which have temporarily

stopped appearing in literature and the usual language, a fact that makes it difficult to identify the ones that have already been changed.

As for infrastructure, according to the information received from each province, with the exception of Quissama National Park, no other park or animal reserve has facilities and access roads in acceptable condition.

Funds have ceased to exist for the management and development of these "poor" natural retreats. The financial means that are available, in addition to the budget of the IDF [Forestry Development Institute], barely cover payment of salaries.

However, Quissama National Park, in Bengo, received 8,460,000 new kwanzas last year, of which 5,782,000 were convertible, from a budget line item for construction work on its facilities.

For unknown reasons, this line item was not used. It was carried forward to the current year and is now valued at 8,034,000 nonconvertible new kwanzas.

The 82 supervisors and guards of Parks and Reserves, in addition to being too few to cover all the square mileage in the protected areas, have by and large an "extremely low" status, which places them at the level of third-class help. There is one of them for every 232 square km, and the standard recommends one for every 30 square km.

#### Foreign Help

Several foreign companies presently doing business in the country have contributed greatly to the solution of some of the many problems that this sector is facing. It is sufficient to recall the sponsorship of the petroleum company Elf-Aquitaine and ASDI [Swedish Agency for International Development] in repairing the tourist facilities and support facilities in Quissama National Park.

The Spanish area also cooperating on the rehabilitation project at Quissama, which is budgeted at 2 million ECU's [European Currency Units] and whose implementation should already have begun with the arrival of the project's consultant.

Other institutions have likewise shown their intention to cooperate in the restoration, protection, and development of the national parks, such as the Italian Cooperation Mission, the EEC, which, within the scope of its Budget Article 946 concerning Conservation of the Environment, would make funds available for the restoration of protected areas in the southern part of the country.

Requests for these funds have been sent in, and it is expected that at any moment there may be a reply that will make it possible to restore Iona and Bicular.

#### Final Considerations

In order for these areas to fulfill the ecological role for which they were created, it will be necessary for the parks

and reserves to start being integrated into economic plans, starting with the provinces, and to earmark budget line items for the national parks and reserves themselves, in addition to those for salaries and for the management and handling of those parks and reserves.

All of this is due to the fact that some other countries in the same region in southern Africa that have fewer resources and scant potential in fauna and flora spend quantities equivalent to \$100 per square kilometer up to \$200 per square kilometer, which is recommended for the management of protected areas.

Some of the priorities are the acquisition and earmarking of financing and equipment, which will make it possible to administer and supervise these parks and reserves, and the recycling or specialization of park administrators and their associates in planning and efficiently managing the resources being maintained in the areas under their trust.

Finally, this document proposes the creation of wetland areas with reserve status for the protection of birds, plants, insects, and other aquatic life.

## MOZAMBIQUE

### President Issues Decree Creating Environment Commission

*MB0306192192 Maputo Radio Mozambique Network in Portuguese 1730 GMT 3 Jun 92*

[Text] President of the Republic Joaquim Alberto Chissano has issued a decree creating the National Environment Commission. The Mozambican head of state has appointed Mineral Resources Minister John Kachamila, and Construction and Water Minister Joao Salomao as National Environment Commission chairman and deputy chairman, respectively.

The National Environment Commission will be responsible for coordinating, studying, promoting, and encouraging environment-related work, among other things. It is also supposed to promote a rational management, preservation, and utilization of the country's natural resources, as well as to encourage and support national efforts to educate the public on environmental affairs.

## SOUTH AFRICA

### Bophuthatswana Reserve To Benefit Community

*92WN0539A Johannesburg SOWETAN in English 6 May 92 p 13*

[Article by Mazwi Xaba: "Game Reserve Bonanza"]

[Text] A cattle ranch in Madikwe, Bophuthatswana, is being converted into a game reserve that promises to benefit the local community.

Bophuthatswana National Parks invited journalists to witness the capturing of African elephant as part of the project.

Bop Parks bought the elephants from the Kruger National Park at about R5,000 each as part of the drive to stock the new reserve with Africa's big five in wild-life—elephant, hippo, lion, rhino and buffalo.

The price tag excludes the cost of capturing, transporting and caring for the animals in transit, explained Mr. Rick Matthews, Bophuthatswana National Park's public relations officer.

Together with the development of tourist resorts, the project will cost about R30 million, he said. But "good spin-offs" will result from the project which will see jobs increase from 80 in the cattle-based industry to more than 1,200.

Minimum wages will increase from R150 to R700 a month.

The most significant factor about the project is that profits from the reserve will be shared with the rural communities living around Madikwe. This will be in the form of royalties which are being discussed with community leaders.

The project, known as Operation Phoenix, is the biggest venture to reintroduce wildlife in Africa and the world, said Matthews.

Madikwe Game Reserve is already home to, among others, the leopard, kudu, jackal and hyena. The 75,000ha reserve is cattle land, handed over to Bophuthatswana by South Africa, is big enough for its new inhabitants.

The capture was only the beginning, said Mr. Dave Maritz, chief warden at a resort in Gazankulu where the group of journalists stayed.

Arriving at the resort at dusk induced a mild feeling of trepidation and suspense in the party of journalists travelling in a minibus.

A game ranger-turned-chef kept telling stories of the mystery and cunning of Africa's wild animals as he directed the minibus down a long and winding dirt road to the chalets.

He counted elephants, hippos, lions, zebras, cheetahs and many more among animals which can be seen in the game reserve.

He told many tales of these wild creatures during his experience at the reserve.

The next morning, Thursday, the capture began just after midday. A professional hunter and fine marksman, a veterinarian and other helpers went up in a helicopter to find the elephant suitable for relocation.

When spotted, the helicopter circled around the group of elephant until they were huddled together. The marksman fired darts containing a muscle relaxant and within minutes the animals were incapable of moving a muscle.

A team of researchers conducted tests on the animals as they lay dormant on the ground.

The hardest part was the lifting of these huge animals and pulling them into cages to be loaded onto huge trucks. This required about 20 men, a two-ton van and powerful hydraulic jacks mounted on the removal trucks.

As they were loaded the animals were injected with a reactivating chemical which brought them to their feet screaming with rage. The trucks took the elephant to a nearby reserve where they were released into bowers.

The veterinarian, Dr. Bob Keffen, said the animals would stay for about a month to allow them to get over the trauma of being captured and removed. If all went well they would end up in their new home in Madikwe.

#### **Use of Coal Stoves Exacerbates Soweto Air Pollution**

92WN0539C Johannesburg THE STAR in English  
7 May 92 p 6

[Article by James Clarke: "Why Our Air Pollution This Year Will Be as Bad as Ever"]

[Text] A recent Department of Health statement says Soweto has not much of a problem with air pollution.

According to Dr. Colin Turner of Eskom it has a big problem.

For a quarter of the year, he says, Soweto's particulate air pollution exceeds the World Health Organisation's recommended limits.

Sometimes its pollution is double internationally recommended ceiling levels and once or twice its pollution has been too dense for Eskom's meters to quantify.

It is interesting that Eskom and not the Government is doing the monitoring.

Black areas in South Africa are still exempted from the almost 30-year-old Atmospheric Pollution Prevention Act, which obliges all other residential areas to be maintained as "smokeless zones."

The 70 percent of South Africans who do not have electricity are mostly black, and Eskom, with an installed electricity supply capacity that amounts to twice as much as South Africa is using, is keen for economic and humanitarian reasons to bring electricity to black areas.

Dr. Turner says the only solution to smoky townships lies in cheap electricity.



It may not be as easy as he suggests.

Soweto already has cheap electricity.

Township smoke is coming from thousands of coal stoves. Even if people were willing to buy electric stoves, they would not dump their coal stoves. They would sell them to people who cannot afford electric stoves or who have no electricity. Thus, the stoves would go on smoking.

Almost all permanent homes in Soweto are wired up for electricity—and, compared with white homes, the electricity is cheap. A mother of three told me that she and her neighbours in Dobsonville all had two-plate cookers and burnt no coal.

One said: "I have the hot plates, colour television, lights, electric kettle and iron and a (space) heater and my monthly bill is R33."

That is cheap, yet the area's smoke pollution is growing in volume.

This is partly because of the increasing number of open braziers in the squatter areas, but it is also because many Sowetans, like the people of Europe, still hang on to their coal stoves despite having the electricity option.

They say even the most expensive electric stove cannot compete with a coal stove. A coal stove not only cooks and bakes, it also heats the house and the bath water, keeps food warm all day at no extra expense, boils water, dries the washing and provides a cosy place to sit around.

Fuel scientists at establishments such as Richlab in Johannesburg believe that coal stoves should not be discouraged but that a smokeless coal should be developed. This is how Britain achieved its remarkable clean-up of the atmosphere in the '60s.

Coal scientists point out that South Africa is one of the few countries in the world which still manufactures "smokeless coal stoves." These stoves are not really smokeless and often the owners, to improve the heating efficiency of the stove, remove the plates which are supposed to reduce smoke.

Smokeless stoves have no export value—but, says Bill Muirhead, a British coal expert who visits South Africa, a smokeless coal would not only be effective locally but would have an instant export market.

Local coal technologists say that until South Africans pay a more realistic price for coal, there will be little money for research and development of smokeless fuels.

South African coal prices are among the world's cheapest.

## National Environmental Planning Strategy Examined

### Integrated Environmental Management

92WN0554A Johannesburg *FINANCIAL MAIL*  
in English 15 May 92 pp 4, 7, 8, 11

[Article: "Taking the Sum of the Parts"]

[Text] The late Sixties saw booming public awareness in the United States of the adverse environmental impacts caused by development. Through public pressure, the government introduced the National Environmental Policy Act in 1970. The aim was to incorporate environmental planning into all stages of political decision-making and private sector development.

And so Environmental Impact Assessment (EIA) was born. Often used as a reactive process in monitoring existing environmental impacts, EIA was not always incorporated as part of the planning process in new projects and was widely considered to be both costly and bothersome. However, massive penalties soon ensured that people toed the line.

In SA in 1984 the Council for the Environment established a committee to recommend a national strategy to ensure the integration of environmental concerns into development projects—both for the State and private sector.

After a major research project that involved numerous organisations and individuals, the committee came to the view that EIA was wrongly perceived as anti-development, following the U.S. experience. A new, all-encompassing policy was introduced: Integrated Environmental Management (IEM).

IEM will probably become enforceable by law, in one form or another. While some of the country's more responsible industries and State departments already practise IEM, many do not and the potential penalties are high indeed. Added to that is growing economic pressure from local and foreign consumers for "environment friendly" products.

IEM, as defined by the Council for the Environment, consists of the following:

- The environmental implications of all proposed actions which could have significant adverse environmental effects should be subjected to continuous and systematic scrutiny from the early planning phase to the final operational or decommissioning stage.

This should take place whether these actions are private or public sector endeavours, and whether they are proposed projects, programmes or policies.

- There are four stages in the development process: the proposal generation stage, in which possible actions are identified to meet some specific purpose or need; the assessment stage, in which these possible actions

are investigated and evaluated; the decision stage, in which the preferred action is chosen; and the implementation stage, in which the chosen action is put into effect;

—IEM is a systematic approach for ensuring the structured inclusion of environmental considerations in decision-making at all stages of the development process.

The objective is not to impede development, but to provide an effective approach, using interactive evaluation techniques, to improve a proposal, or suggest more environmentally acceptable ways to meeting the purpose and need of a proposal.

This will assist the responsible authority in identifying those actions which will be in the best overall interest of society; and

—All development proposals fall into one of three classes, which can be identified by a screening procedure, and each class requires a different level of assessment (see graphic) [not reproduced]:

#### **Potential for Harm**

A Class 1 proposal is likely to have significant environmental impacts, and therefore should be subjected to the most rigorous form of environmental assessment (possibly taking some months for major projects).

Even if a project is finally approved, there might be conditions attached. For instance, the proposer may be asked to provide a detailed environmental management plan as a prerequisite.

A Class 2 proposal may or may not have significant environmental impacts, and therefore a relatively brief assessment may be done (taking possibly a month or two).

A Class 3 proposal is highly unlikely to have significant environmental impacts and therefore only a perfunctory assessment needs to be done (taking only a day or two).

This grading system is currently being rationalised and upgraded to a point where it will be usual to carry out an initial assessment, which may or may not result in a full EIA.

The key words in the definition of IEM at proposal stage are: "(to) assist the responsible authority in identifying those actions which will be in the best overall interest of society."

Successful IEM incorporates a policy of openness and honesty—particularly when dealing with potentially sensitive developments. During the "scoping" stage (see graphic) [not reproduced], the public and all other interested parties are invited to comment on the proposal and possible alternatives.

The Serina kaolin mining project on Chapman's Peak is a prime example of a controversial Class 1 proposal.

Mining there was first mooted in 1979—and even then there was negative public reaction.

An EIA was commissioned by the mining company, and completed in 1981.

Such was the public pressure that the Department of Constitutional Development instituted another study in 1982.

When a new management team at Serina revived plans to begin kaolin mining in the area in 1988, environmental management company Steffen Robertson & Kirsten (SRK) was asked to examine the overall environmental impacts of the operation.

A Class 1 level of assessment then began, using a large multidisciplinary team of experts and taking into account a myriad of factors ranging from noise and dust levels to existing vegetation, life of the mine, stormwater runoff, and the perceptions of local residents.

An independent review committee examined the findings.

The heated public campaign against the mining operation is well documented.

SRK's Mary-Jane Muller, who oversaw all aspects of the EIA, says: "In a nutshell, the SRK EIA showed that, with sound environmental control measures, irreversible and permanent impacts on the environment would not occur."

In the final EIA report summary and recommendations, Muller added: "Environmental control measures have been detailed.

"If the impacts are successfully controlled, potential impacts such as loss in the value of property and the nuisance factor posed by dust and noise can be largely overcome.

"Moreover, there are positive aspects related to the proposed operation resulting from employment opportunities and benefits to the local and national economy."

Indeed, the emotional argument (often wielded freely without scientific back-up) has weighed heavily against Serina. Much has been made of fynbos that may be affected by the operation. In fact, the site is heavily infested with alien vegetation and is therefore in an ecologically degraded state.

With the proposed rehabilitation programme, the site will be left in a more favourable state from an ecological point of view.

In addressing environmental impact, Mueller says: "...detailed environmental control measures must be followed during the implementation phase of the proposed development.

"In this regard, two additional recommendations are made:

- An Environmental Control Manual be drawn up to provide details with regard to the day-to-day environmental management of the mine; and
- A committee comprising persons with relevant environmental expertise and representatives of the local residents and government authorities be established to monitor the operation."

### Bias Refuted

The "war" on Chapman's Peak is still hotting up. Doubts have even been cast over SRK's impartiality in the project. Mueller refutes this categorically: "SRK is a professional organisation and is a member of the S.A. Association of Consulting Engineers. It is neither in the interests of the company nor the profession to be biased in favour of the client. The question of bias because the client pays is a red herring."

An integral part of IEM is that a development proposer hires experts to assess the environmental risks of a project.

### Monitoring of IEM

92WN0554B Johannesburg FINANCIAL MAIL  
in English 15 May 92 pp 8, 11

[Article: "Balancing the Books"]

[Text] There is little point in employing an Integrated Environmental Management (IEM) programme if the results cannot be systematically monitored.

Any system allowed to continue under its own steam is bound to falter unless the proponents have regular feedback on where improvements or modifications might be required. One solution is to have regular Environmental Audits (EA) by qualified personnel.

In the publication *Building the Foundation for Sustainable Development in South Africa*, the Department of Environment Affairs refers repeatedly to the need for EA legislation.

Compiled by the CSIR [Council for Scientific and Industrial Research] and due to be presented at a United Nations conference in Rio de Janeiro in June this year, the paper also recommends widening the ambit of EAs to include smaller businesses, rather than just industry groups.

What exactly is an EA? Suzanne Parker, product manager, CSIR environmental services, explains: "Environmental auditing is a relatively new concept in South Africa, having been imported into the country about three years ago from the United States. The most widely accepted definition at this stage is that of the International Chamber of Commerce: 'An environmental audit is a basic management tool comprising a systematic, documented, periodic and objective evaluation of how

well environmental management systems and equipment are performing with the aim of helping to safeguard the environment by:

- Facilitating management control of environmental practices; and
- Assessing compliance with company policies, which would include meeting regulatory requirements."

Parker says an EA is essentially a measuring tool for greater control. The aim is to provide both management and staff with information and assurance with respect to compliance. It is a basis for decisionmaking.

Parker adds: "The EA arose in the United States during the Seventies as a reaction to the massive amount of environmental legislation promulgated at the time. Along with legislation came severe penalties—CEs [chief executive?] could be jailed (and in some cases were) for up to five years because of the contravention of environmental law by a junior employee.

"Fines started at U.S.\$25,000 a day, with closure of the company occurring sometimes within a week, until the company cleaned up its act. Companies quickly realised that the only way to ensure that they were always in compliance with legislation was to give regular, ongoing EAs.

"The mass of U.S. environmental legislation developed at that time was in direct response to public pressure, in the wake of several incidents that were construed as a direct threat to public health.

"Over time, the focus of the environment-conscious American public, and in the past few years, the European public, has shifted from local concerns to the environmental impact being generated during production in Third World countries."

It can thus be seen that the strongest driving force for Environmental Management (EM) in South Africa is economic.

There appears to be a growing trend towards stronger government control over EM in South Africa: the Department of Environment Affairs' paper (mentioned earlier) evaluates different approaches that could be taken by government to EA; the *President's Council Report on a National Environmental Management System* accepts the principle of compulsory EAs for industry; and the new Minerals Act 50 of 1991 places a much higher priority on rehabilitation plans for the mining industry than before.

What other reasons exist for a company to institute EAs?

Parker adds: "There is a wide range of reasons, ranging from risk assessment, to reduced costs, to the development of environmental awareness in the organisation.

"One of the very useful applications is a defence in the face of public antagonism. In this instance, however, the



organisation would be advised to follow a procedure whereby EM is implemented, a preliminary audit is done to ensure that the Environmental Management Programme (EMP) is on track, and then a final audit report compiled, which can be produced for public scrutiny and discussion. This more open and cooperative approach ensures that the audit report is a strong defence against both public and government inquiry.

"There are five main areas where EM (for auditing is of little consequence without implementation) can make a significant difference to the bottom line:

- Insurance premiums. This is a direct incentive. An Environmental Impact Assessment and/or audit report will provide proof of the company's commitment to EM and could provide a basis for negotiation of lower premiums;
- Assurance. Where expensive rehabilitation planning and implementation occurs, regular auditing is essential to ensure that this is successful;
- Risk reduction. As discussed earlier, the impact that a poor public image can have, such as a reduction in share prices, can be reversed with proactive communication and objective information to support your case. The same applies to defence against possible future regulatory penalties;
- Improved efficiency. Pursuing an 'environmentalist business management' approach of necessity means better efficiency. Principles such as saving on water and energy, preventing or reusing waste, and the technological fine-tuning that goes into this translates ultimately into an integrated quality management approach; and
- Purchasing patterns. We are already seeing that people are prepared to pay a premium for environmentally friendly production. While this may not be the case for all industries, it may be something to consider in future scenario planning, in particular for those sectors of the industry which export to environmentally conscious countries."

Parker says that should a company require an EA, it should ensure that it deals with a credible organisation which has a good track record in the environmental arena. Few organisations have conducted EAs in South Africa, but this is changing rapidly.

Among those which have conducted comprehensive internal EAs are the CSIR, Eskom and AECl [expansion not given]. Some of the mining houses and other members of the chemical industry have also begun implementing strong self-regulation.

## ANC, PAC, Inkatha Environmental Policies Compared

### African National Congress

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[Article: "The ANC Spells It Out"]

[Text] Here are extracts from a discussion paper which presently stands as the ANC's [African National Congress] environmental policy.

As noted earlier in this survey, all that is tangible around us may be grouped under the term "environment." Thus, efforts to create a healthy environment must be holistic, addressing ecological, economic, as well as sociological problems.

The ANC's discussion paper seems to take cognisance of this, but does not address certain vital factors, such as massive population growth. More importantly, will be organisation's leadership have the determination and manpower to carry stated policies through to legislation when in power?

Indeed, the water is further muddied when taking into account the policies of Inkatha and the PAC [Pan-Africanist Congress] (see separate stories), and other interested political parties. Self-interest could delay decisionmaking through endless squabbling over the policy of preference.

Another danger is short-term, expedient "solutions" to environmental problems. Past experience shows that this approach usually wins the day. Governments invariably cast caution, indeed logic, to the winds as votes take precedence over reason.

Expedience may be particularly pertinent in the case of South Africa where millions of people will suddenly find that "freedom" does not equate with jobs, money and food. The impatient masses will provide fertile ground for a legislated nationwide plan of short-term gain—with incalculable negative effects on the environment.

And what of the pressure of numbers itself? Here, neither the ANC nor the PAC addresses the single greatest problem facing our environment and economic future: runaway population growth. Both have chosen to deal with this politically sensitive issue in an expedient manner—by simply ignoring it. Inkatha's statement refers only in "safe" terms to population growth.

No environmental policy can succeed without positive action in population growth control.

Some environmental protection may come through simple economics, though this will matter little to the unfed man in the unpaved street. There is existing and potential pressure from overseas consumers and manufacturers to ensure that products bought by those countries are environmentally "clean."

This comprises independent audits to ensure that there is no (or limited) environmental damage throughout the manufacturing, distribution and usage stages of a product's life. Increasingly, South Africa businessmen are learning the economic benefits of good environmental housekeeping.

What is also disheartening in the paper is that the ANC calls for research and action in many fields where extensive research and remediation is already successfully being done. The paper is also often vague and presents some rather naive concepts.

To avoid expensive duplication of effort, the ANC could well acknowledge and learn from the many experts who compiled the *President's Council Report on a National Environmental Management System*, a far more thorough document with, ultimately, the same aim.

Incidentally, input was requested from all interested parties in South Africa when compiling the report—though none was forthcoming from the ANC or PAC. Environmental management company Steffen Robertson & Kirsten's Fanie Geldenhuys say one of the main shortcomings of the *PC Report* is the almost total lack of black input.

An alternative excellent publication to be considered is *Building the Foundation for Sustainable Development in South Africa*, compiled by the CSIR [Council for Scientific and Industrial Research] for the Department of Environment Affairs, to be presented at a United Nations conference on environment and development in Rio de Janeiro this June.

The ANC's paper stands as the organisation's present policy. Repeated requests for further information have been ignored.

The ANC's Max Sisulu and Stan Sangweni, then, in *Future Environment Policy for a Changing South Africa*: "The major environmental issues of great concern are: climate; ozone; soil erosion, deforestation and desertification; water and air pollution, toxic wastes and dangerous chemicals.

"The ANC's position on the environment emphasises three key elements:

- Protection of environment (fauna, flora, rare species, natural resources);
- Construction of environment (engineering works to enhance environment and use of natural resources); and
- Management of environment (environmental pollution problems caused by environmental production, damage caused by construction and development activities).

"(The) ANC is committed to conservation and rational use of our natural resources for the benefit of the present

and future generations. Also, that in planning and implementing an economic growth programme a correct strategy is to maintain a healthy balance between economic and social benefits on one hand, and environmental protection on the other—sustainable development and growth with environmental protection.

"...it is impossible, in the political sense and in the socioeconomic context, to pursue a rational environment protection policy under the apartheid political system or any similar totalitarian regime.

"The widespread land degradation which obtains in the so-called homelands (soil erosion, overgrazing, deforestation and desertification) where millions are crammed beyond the carrying capacity of these marginal lands, constitutes such inevitable environmentally destructive consequences of apartheid.

"Some guiding principles:

- A careful balance between the needs of current and future generations will be made in the exploitation of nonrenewable natural resources. In this respect, the exploiters of natural resources will be required to develop new technologies that use less of such resources and otherwise search for alternative resources. They will also be required to take appropriate conservation and rehabilitation measures;
- Subject to absolute upper limits beyond which closure is the solution for avoiding environmental disaster, (an) ANC government would seek to impose deterrent surcharges for those concerns whose activities pollute the environment—asbestos mining operations, for instance.

Such surcharges (or rent) would be used to compensate those individual communities and institutions adversely affected by such actions and to pay for the cost of rehabilitation. This is the application of the principle of 'polluter must pay;'

- The impact of each individual project would be assessed during appraisal and feasibility studies, including evaluation of all costs and benefits and making choices on appropriate technologies, viable economic size and project location. Where human health and safety is concerned, the ANC would seek to set standards for the sustainable use of resources and for the appropriate disposal of effluent and wastes; and
- The ANC would put in place comprehensive legislation on environmental management and protection. Such legislation would seek to address and make provision for pertinent environmental issues including: environmental impact assessments; resource management and protection; environmental monitoring; prevention and elimination of environmental pollution and damage to ecosystems; provision

of appropriate administrative structures for environmental monitoring, assessment and management at district, provincial and national levels.

### Industrial Development

"Industry in South Africa provides the great impetus and drive to growth and development of the country. Yet is also a source of some of the most serious environmental problems in the land.

"Atmospheric pollution, perhaps among the highest in the world, is caused by the enormous discharges of vapours and gases from the industrial process wastes like oil refining (sulphur oxide sic) and thermal electricity generation.

"Such discharges are not confined to the air alone. These toxic wastes emanate from chemical and pharmaceutical industries, research laboratories, textile mills, agrochemical industries, paper pulping factories, sugar milling factories, and so on.

"Other special environmental pollution problems affecting the urban areas include problems of disposal of solid waste, industrial noise and smog—the latter which is peculiar to the black townships where people rely on coal and kerosene/paraffin for their domestic fuel energy.

"Policy response:

—The ANC [African National Congress] believes the issue of pollution in South Africa is a complex one, requiring serious comprehensive measures (laws, regulations, structures, public education and awareness building) to be put in place for environmental management and control of industrial pollution;

—In developing its policy on environmental pollution, the ANC will be guided by the principle of seeking appropriate means of introducing environmental management into industrial development so that technological innovations by industry address also sources of pollution, its prevention and control.

To reflect this concern with industrial pollution, various incentives will be explored to reward industrialists who develop environmentally sound technologies which ensure sustainable development.

Conversely, commensurate penalties need to be instituted against industries which damage the environment in application of the principle of: the polluter must pay for cleaning the environment;

—The issue of air pollution in the townships is rooted in apartheid and its inevitable corollary, black poverty, which creates townships where the black population has no option for pollution-free domestic fuel other than the mandatory reliance on coal-burning stoves.

Pollution in the black townships has therefore first to be tackled through dismantling apartheid to create the

necessary conditions for uprooting poverty in the sector of South Africa. In a post-apartheid South Africa, industry should have a social responsibility to invest in technological research on economically viable alternative sources for domestic energy, like solar energy, to reduce the need to burn coal and other polluting fossils; and

—On the issue of toxic wastes the ANC will associate itself with the international initiatives to regulate disposal, dumping, recycling and transboundary movement of toxic wastes.

In this regard, an ANC government in a post-apartheid society would seek to be a signatory to the Basel Convention for Control of Transboundary Movements of Hazardous Wastes and their Disposal, adopted in March 1989 by 116 states.

Among others, the convention seeks to eliminate the menace posed by toxic wastes to the shared international environment; it declares as illegal traffic in any transboundary movement of toxic wastes, including the dumping of such wastes.

### Agriculture, Livestock and Water Development

"In South Africa, like in many countries of the world, the quest to produce food to meet the growing market requirements, combined with the distortions arising from apartheid policies and insufficient attention to the environmental impact of agricultural policies and practices, is responsible for great environmental damage.

"The magnitude and quantification of such environmental havoc will need to be defined through research and study.

"But even from casual observation it is common knowledge that serious land degradation and depletion in the form of loss of soil and deforestation is extensive, particularly in the so-called homelands. The off-site impact of the resulting soil erosion includes the siltation of lakes and dams.

"Overuse of pesticides and herbicides, coupled with lack of control on their chemical content, has polluted water and has contributed to damage of the ecology of agriculture, besides creating hazards for human health and animals. Furthermore, intensive use of fertilisers and pesticides, particularly on the white-owned farms, is very much likely to have polluted ground water with nitrate accumulation.

"Policy response:

"The precise nature of environmental problems associated with agriculture in South Africa should be the subject of research in all the key areas mentioned above and many others not listed. The major thrust of environmental policy on the agricultural sector should, however,

aim at achievement of maximum food and fibre production without resource depletion or environmental degradation, and rehabilitation of the resource base where environmental damage has been occurring.

"The ANC envisions a rural development programme designed and implemented to promote afforestation, agro-forestry systems, water management, soil conservation measures in areas of environmental stress. Such programmes and projects would respond to the needs of the local people for food, fodder and fuel, while increasing long-term productivity of natural resources.

"A national water policy will have to be articulated as an intersectoral and integrated package for water development and use, with technical, economic and organisational means geared to improving efficiency of water use in farming and animal husbandry. Measures will be devised to enhance protection and storage of ground water.

"Rural communities will need to be provided with development assistance to install or improve productivity of existing irrigation, reduce its environmental damage, and adapt it to the needs of small-scale, diversified agriculture.

"Environment policy will need to address the issue of use of fertilisers, pesticides and herbicides to guide their usage within environmentally safe bounds. Such policy would also encourage the practice of ecologically sound and sustainable production of food and fodder combining applications of organic fertilisation with limited usage of inorganic chemicals and planting of pest- and disease-resistant varieties.

#### **Wildlife Development and Tourism**

"The increased pressure on land for human settlement and for agricultural production is likely to limit land availability for wildlife conservation and its use for major economic activities like tourism. Conflicts of these land-use requirements lead to such aberrations as poaching.

"Yet, in many ecological zones in South Africa, wildlife management and conservation offer the only ideal balance between human economic activity through tourism and environmental conservation.

"Policy response:

"The ANC [African National Congress] views wildlife as a national resource, and accordingly, its policy in a free South Africa will put emphasis on State assistance to communities in the management of wildlife resources, particularly in rural areas where wildlife utilisation on a sustainable basis represents a significant and viable land-use option.

"The ANC is in agreement with the policy approach of some of the neighbouring states which advocate full community participation in management of wildlife resources and the economic benefits flowing from these

resources. It will also serve as an incentive for those communities to protect and conserve wildlife through its sustainable utilisation.

"The ANC will therefore explore to the fullest the various modalities for rural development projects in these regions based on controlled rational harvesting of wildlife for supply of raw materials (ivory, skins, and so on) to be fabricated into finished products in rural, cottage, cooperative industries.

"In this context, wildlife should be perceived as an asset by the communities where it exists and it is to be expected that they will protect it and are not likely to be part of its poaching and smuggling.

"Other policy measures will include research aimed at enhancing conservation and management of wildlife populations:

- Special protection of endangered species and participation in the Convention on International Trade in Endangered Species and Wild Fauna and Flora (Cites);
- Educating the public on the continuing importance of protection and conservation of wildlife, emphasising the role of NGOs (non-government organisations) in this respect;
- Explore various incentives for the encouragement of domestic tourism; and
- Localise the ownership and management of the tourist industry.

#### **Afforestation and Reforestation**

"There has been extensive deforestation and destruction of vegetative resources in South Africa, particularly in the so-called homelands, where population pressure, induced by apartheid, has led to widespread destruction of forest and woody vegetative cover which provide fuel and timber requirements for rural households.

"The forestry resources in these parts have virtually become nonrenewable though forests are potentially renewable. Given the present rates of depletion, rehabilitation of the degraded lands will be accomplished at enormous cost and over long periods of time.

"To stem the negative environmental impact the State needs to formulate policy guidelines of the exploitation of forestry resources.

"Such guidelines need to focus on the priority areas of: forestry land usage planning, conservation measures of forest ecosystems, fuel wood and energy planning, and institutional support for better forestry management.

"The NGOs [Non Government Organization] concerned with environmental rehabilitation in South Africa have a potential contribution to make to the afforestation and reforestation efforts at rural community level country-wide:

- Rural afforestation extension schemes backed by distribution of seedlings of various species for agroforestry, timber, and fuel wood in addition to encouraging individuals and institutions to establish their own seedlings;
- Expansion of effective watershed management and conservation of forest areas to ensure adequate future supply of fuel wood and industrial use timber, water and soil conservation and recreation;
- Reforestation of overcut areas with indigenous species; and
- Manpower training for forestry.

#### Marine Resources and Fisheries

"South Africa's marine resources are enormous, surrounded as we are by two oceans with extensive fish resources.

"But as in many parts of Africa, the high pollution levels and degradation of coastal ecosystems threaten the life support capacities of the two oceans and undermine their role in the food chain.

"The problem may be expected to be particularly acute around the highly populated and industrialised coastal zones. More than three-quarters of marine pollution is estimated to come from land-based sources via rivers and direct discharges. The rest come from shipping, dumping and oil production.

"The environmental challenge here is to control and decrease marine pollution and establish regimes of environmental management of the oceans and coastal regions around South Africa.

"Policy responses:

- Control of the discharge of industrial effluents and sewage;
  - Prohibition of dumping wastes, including hazardous and radioactive materials as well as disposal of hazardous residues and wastes from ships;
  - Regulations regarding spills from tankers and offshore platforms; and
  - Promotion of land-based technology for disposal of hazardous wastes.
- "(NGO and media) campaigns could focus on such targets as:
- Restoration of depleted fisheries and protection of overexploited fisheries;
  - Draw attention of risk to public health because of contamination of fish products with chemical pollutants; and
  - Need to establish coastal and marine protected areas.

"There is a need also on the part of the State to develop land use plans for coastal zones and marine ecosystems, giving priority to drainage basins where pollution and land uses have a substantial impact on marine resources and ecosystems."

#### Pan-Africanist Congress

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[Article by Barney Desai: "The PAC's Perceptions"]

[Text] The PAC's [Pan-Africanist Congress] paper on environmental matters is a disappointing hodge-podge of political sloganeering.

It also contains two vague clauses which, if adopted, would spell disaster for any national environmental management plan.

First, the point the organisation is missing is that "the enhancement of quality of life" as a prerequisite to environmental planning is an impossible quest—holistic environmental planning includes quality of life; one cannot exist without the other.

Second, if the "disparities in social, economic and political development be ended" as a prerequisite to sustainable development, it must be asked how—the twin chimeras of economic and social parity have eluded man since time began.

#### What About Numbers?

Importantly, neither the ANC [African National Congress] nor the PAC [Pan-Africanist Congress] addresses the critical problem of overpopulation in its policy—without population control, no environmental management plan could succeed. Putting it simply, there is only so much to go around, and no more, no matter what environmental control measures are used.

The PAC's paper, then:

"It should be recognised that the environment is a people's concern. However, this must be seen within the context of the inherent contradictions of an apartheid society.

"The discriminatory mechanisms at work within South Africa have resulted in a deeply divided society, with enormous differences in the lifestyles of blacks and whites.

"These differences are demonstrated not only by the sharp contrasts in quality of life, but also by the appalling statistics on unemployment, health, poverty, illiteracy and the homeless.

"Thus, for the majority of black South Africans, whose lives and aspirations are dictated by the struggle for survival, environmental considerations are regarded with indifference or hostility.



"There is a fundamental difference in the environmental perceptions and attitudes of blacks and whites—a dichotomy which is demonstrated by the fact that, for many whites, environmental issues are based on aesthetics, while for blacks, the issue of basic needs is the central issue.

"In addition to the ethnics vs aesthetics factor, the impact of the land question is also important. The divisive legacy of conquest and dispossession, a process begun with white settlement in 1652, has continued to the present in the form of forced removals, Group Areas harassment and the continued existence of the 'home-lands.'

"Not only has the current land dispensation resulted in increased spiritual and physical alienation of blacks from the environment, it has also had grave environmental implications as enforced overpopulation in the 'home-lands' has resulted in overstocking, overgrazing, overcultivation and appalling rates of soil erosion.

"Bearing in mind the foregoing, the PAC recognises that:

- The environmental issue is, in fact, an issue of survival and that, therefore, an environmental policy should be an integral part of the organisation's overall policy;
  - Human beings are an integral part of the environment and that it is therefore logical to incorporate the environment as one aspect of a human economic policy;
  - Any environmental policy adopted should respond to relevant socio-political factors, that is, it should incorporate the human dimension of environmental concern and by so doing, be socially responsive;
  - Due to the slavish implementation of the tenets of apartheid, black South Africans face a tremendous socioeconomic backlog and that, in accommodating neglected basic needs such as housing, health care and education, there may well be adverse environmental effects.
- Attention will therefore have to be directed at finding an appropriate balance between environmental planning and the provision of basic needs;
- If mass environmental literacy is to be achieved, political literacy and the democratisation of society must be seen as crucial and indispensable elements of an overall environmental strategy;
  - The current inequitable land dispensation is an insuperable obstacle in the establishment of mass environmental awareness. In ending the spiritual and physical estrangement of black South Africans from their environment, the land question will have to be addressed; and

- That certain preconditions are necessary for the successful implementation of future environmental strategies. These preconditions may be summarised as the

destruction of apartheid; the enhancement of quality of life; and the democratisation of society. There must be no impediment to the right of self-determination.

"Based on the above factors, it is proposed that the PAC's environmental policy include the following aspects:

- That the environmental policy of the PAC will adopt an holistic approach, that is, one which takes into account relevant social, historical, economic, political, as well as environmental factors;
- That the PAC commits itself to the conservation of ecosystems and biotic diversity; and
- That the PAC accepts the concept of sustainable development, that is, the wise and nondestructive use of resources, with the understanding that a prerequisite for sustainability is that disparities in social, economic and political development be ended.

#### Toxic Waste

"Examples of inaction by the present government are horrifying in the extreme. High doses of mercury can destroy the central nervous system and cause serious birth defects. Water tested in the Umgeni River in Natal revealed mercury contamination to be the highest ever recorded in the world.

"The PAC wishes to make clear its opposition to the dumping of hazardous waste in Africa and supports international efforts towards a total ban of such trade.

"With regard to the industrial pollution of our rivers, substantial fines should be imposed on enterprises guilty of such malpractices. In addition, they should be held accountable for the cleaning up of such pollution.

#### Air Pollution

"Coal-fired power stations and synthetic fuel refineries have caused substantial parts of the Transvaal to become heavily polluted. In the eastern Transvaal, 57 tonnes of sulphur dioxide per km<sup>2</sup> belches into the air every year from power stations, industry and the giant Sasol plant.

"Air contamination in the eastern Transvaal and in the Vaal Triangle has been blamed for the high incidence of ear, nose and throat ailments, as well as more serious chest diseases. The 2 million residents of Soweto are under a perpetual haze of carbon dioxide because of massive air pollution caused by coal stoves.

"As a matter of urgency, present and future research should emphasise simple and appropriate technology.

"This should include the use of alternative energy sources such as solar energy.

"With majority rule, Azania will be well-placed to forge close links with subtropical Africa with a view to pooling resources through the extensive installation of dams for generating power for both industrial and domestic use in

ways that are both cheap and nondestructive of the environment of all of southern Africa.

"In addition, all industrial enterprises, State and private, must be given a specific time to take measures to minimise the emission of toxic gases into the atmosphere.

"It is recommended that:

—The PAC accepts the necessity for the adoption of an environmental code of ethics in a new Azanian constitution.

This could be done along the lines of the Namibian constitution, which commits the State to adopting policies aimed at ensuring that ecosystems, essential ecological processes and biological diversity are maintained;

—That, similar to the situation in India, the public is given obus standi, that is, that the legitimate concern and interest of the public regarded general environmental matters, is recognised. The courts should be made aware that they have a duty to protect the public and the environment, and that this should take precedence over legal technicalities; and

—That an environmental ombudsman, independent of both the State as well as the private sector, should be appointed in order to mediate in environmental issues.

"It is further recommended that the organisation takes the following steps to ensure that its membership becomes sensitised to environmental issues:

—An environmental committee could be established.

This committee could consider various strategies to institute environmental action; it could liaise with various environmental organisations; it would consider practical ways in which to ensure a balance between development on the one hand and the need to consider the environment on the other;

—Trade union affiliates could consider questions of industrial health and occupational safety. Trade unions are in the ideal position of being able to sensitise their members with regard to environmental issues because practical action in these spheres will result in concrete benefits to workers.

Action taken in the sphere of environmental health, for example, such as steps taken to minimise the dangers of working with hazardous materials such as asbestos, will, at the same time, ensure the right of workers to work in a safe environment;

—Civic bodies and community organisations could undertake issues identified as relevant by local communities. In this way, local communities are enabled to undertake action which, for example, allows them to address the environmental poverty of their immediate environment in a practical manner; and

—Teacher and student bodies could undertake community-based environmental education programmes which have as their focus local environmental problems."

### **Inkatha Freedom Party**

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[Article: "Inkatha's Environment"]

[Text] The Inkatha Freedom Party's (IFP) policy on the environment lacks teeth and definition. The IFP, as an important player in the new South Africa, would do well to clarify its position on the environment.

While the statement does address the critical issue of population growth, it does so in politically "safe" terms.

A positive environmental factor in KwaZulu at present is projects where rural inhabitants have access to natural resources within proclaimed game reserves. KwaZulu is setting the pace here.

This symbiotic relationship has several benefits: tensions over land use are reduced (game reserves will no longer be regarded as fenced-off elitist playgrounds); locals have access to plants used medicinally or for building purposes and to meat from culled game; the wildlife enjoys greater protection from poaching; and growing tourism continues to pump money into the region.

However, large parts of the region suffer from overgrazing, soil erosion, dreadful poverty and endemic violence.

The IFP statement says: "We believe that our natural resources belong to all the people of this country. They should be conserved in a way that enables them to be used for the greatest good of today's citizens without restricting their potential to benefit future generations.

"We subscribe to three premises:

—Mankind is an integral part of nature and is utterly dependent upon the earth for his well-being as nature is the source of life;

—The basic needs of all people for food, shelter and clothing should be met, and all people should have an equal opportunity to improve their quality of life. These opportunities must be achieved in harmony with, and not at the expense of, our natural environment; and

—We hold this world in trust for our children. We should give them a world that is no less diverse and productive than the one we have inherited.

"It is against this background that we will plan the development of our country to meet the needs of the present without compromising the ability of future generations to meet their own needs.

"Development is necessary to improve the quality of life, of our people. Development will cause change. By

causing change we know that man has always had an impact upon his environment. But change is a natural condition of life on earth.

"Our responsibility is to ensure that the changes we cause do not threaten the natural ecological process that sustains the productivity, adaptability and capacity for renewal of our land, plants, animals and people.

"We recognise that development is dependent upon adequate sources of energy. Energy is essential for commercial and industrial growth. More importantly, an adequate supply of energy to every household will improve the quality of life of all our people. In supplying this energy, we will promote the use of renewable resources, reducing our dependence upon nonrenewable resources; those which cause pollution; and those which are drawn from areas which are external to our economy.

"In pursuing our development programmes, we will endeavour to see that no person enriches himself at the cost of the health or well-being of others. We will hold liable those who deplete biological wealth or damage the health of people or ecosystems. Any person or body who pollutes our environment, whether through chemicals, noise or degradation of the visual environment, should contribute to the costs of rehabilitation of that environment.

"Air and water pollution must be held at levels which will not cause permanent injury to humans, plants or animals. In making this statement we recognise:

- The importance of adequate sources of fresh water. We will create greater awareness of how the water cycle works and of the importance of key aquatic ecosystems. We will manage the water demand to give an efficient and equitable allocation among competing users;

- The important role of the oceans. Our coastal scene is deteriorating and many marine resources have been depleted. We will pay more attention to controlling land-based sources of marine pollution, protection of major coastal wetlands, seagrass beds and coral reefs. We will also involve fishing communities and organisations in the management of fisheries; and

- The threats to our atmosphere. We will undertake a balanced, long-term campaign to build public awareness of the implications of climate changes, sea level rises, ozone depletion and acid rain and of the actions required to respond to them.

"In meeting the needs of our people, and creating equal opportunities to improve the quality of life, we believe that strong families give strength and meaning to our society. We believe that strong families are not possible without both healthy mothers and healthy children.

"While parents should have the right to decide the size of family that best meets their needs, we believe that we can best achieve family health and strength by achieving a balance between family size and the resources that are available to us.

"As we hold this world in trust for our children we must not, through our carelessness or neglect, destroy the soil or deprive our children of access to any of the plants or animals who share the earth with us.

"We will not bequeath to our children a legacy of poison. Any toxic materials we use in our lifetime we will deal with in our lifetime. If we cannot neutralise these poisons we should stop using them.

"To implement this policy requires that as many people as possible understand our dependence on natural processes and the need to plan sustainable development.

"To this end we will ensure that environmental awareness becomes an integral part of both formal and informal education programmes.

"Finally, while there are practical reasons for adopting a sound environmental policy, living in harmony with our environment should also be an act of faith. The conservation of nature depends on the cooperation of all people.

"It will be an attitude of faith that enables us to meet the challenge of creating a just and equitable, beautiful and humane, integrated and environmentally sound society."

#### **PAC Document Opts for 'Large-Scale' Nuclear Power Program**

*MB0106111392 Johannesburg SAPA in English  
1527 GMT 1 Jun 92*

[By Pierre Claassen, political correspondent]

[Text] Cape Town, June 1 (SAPA)—The Pan Africanist Congress [PAC] has developed a new energy policy for South Africa which opts for a large-scale nuclear power programme.

The recently completed policy discussion document is to be circulated at the Earth Summit in Rio de Janeiro and follows the PAC's attending the UN Conference on Climate Change where the world problem of the depleted ozone layer received attention.

The PAC was the only South African representation at the New York conference where a UN Convention on Climatic Change was drafted. Dr Solly Skosana of Davyton is representing the PAC in Rio where the draft convention is to be endorsed.

The PAC's policy document proposes an extensive cleaning-up of existing coal powerstations by installing the latest flue gas desulphurisation technology, the building of nuclear plants to replace them and research into nuclear waste disposal and plant decommissioning.



By switching to nuclear fuel, the policy paper argues, the country's dwindling coal reserves can be conserved and better used for fuel oil production and thus reduce dependence on imported crude oil.

The switch will also reduce poisonous carbon and sulphur dioxide emissions while the PAC strives to provide in the electricity needs of 80 percent of blacks who are presently without it.

The PAC information secretary, Mr. Barney Desai, who attended the New York drafting of the convention said on Monday it was a great pity that its final form was more declaratory than obligatory.

The draft convention proposes to peg the year 2000's emissions to 1990 levels but the enormous cost in rectifying the position of world's No 1 culprit—the USA, generating 20 percent of the world's carbon dioxide—prevented the proposals from being presented as enforceable obligations.

Mr. Desai said the argument that the control of carbon dioxide emissions would retard development in the Third World due to increased reliance on fossil fuels was a fallacy.

Each US citizen generated 5.45 tons of carbon dioxide a year whereas the African per capita 0.3 tons was well below the world average of 1.13 tons.

What was important however, was that the grey gaseous pall which hung over townships such as Soweto in winter be removed by the provision of electricity.

This coal smoke was serious health hazard for the black urban community.

Referring to the new PAC policy discussion document he said uranium offered an opportunity to promote the quality of life, particularly among blacks, by the provision of more and cheaper energy.

The PAC refers to a survey by the United Kingdom's National Radiological Protect [as received] Board survey which found that despite weapons testing, fall-out of the '50s and '60s, 99.9 percent of public exposure to radiation came from natural sources.

In pursuing its developmental objectives that PAC had to investigate a viable alternative method of generating energy and reducing emissions to the environment. Switching to nuclear energy was clearly justified because it reduced these emission levels, enabled greater oil from coal production, encouraged the exploitation of the country's vast uranium reserves and promoted the quality of life through more and cheaper energy.

Nuclear waste was a global problem which fortunately involved the world's best scientists and engineers to further reduce the risks and environmental problems associated with nuclear technology.

### **Corn Harvest Expected 70 Percent Less Than 1991**

*MB0206054792 Johannesburg SABC TV 1 Network in Afrikaans 2000 GMT 1 Jun 92*

[Text] South Africa's corn harvest this year is expected to be 70 percent less than that of last year. The Department of Agriculture says in a report that the latest harvest estimates indicate a corn crop of only 2.43 million tonnes. That is more than 5 million tonnes lower than last year's crop.

It is expected that about 1 million tonnes of yellow corn, the staple food of the country's black population, will be harvested, and only slightly more than 1.4 million tonnes of white corn.

South Africa's annual domestic corn requirement is 6.5 million tonnes.

### **Summary of Environment Report for Earth Summit Released**

*MB0306160392 Johannesburg SAPA in English 1335 GMT 3 Jun 92*

[By Guy Rogers]

[Text] Pretoria, June 3 (SAPA)—South Africa has submitted a 250-page report to the World Earth Summit in Rio de Janeiro which details a deteriorating water supply, huge waste piles and some of the worst air pollution in the world. Billed as the most momentous environmental event this century, the Earth Summit will be officially launched on World Environment Day, June 4, with the theme "One Earth One Chance".

In a summary of its report, released in Pretoria on Wednesday [3 June], the Department of Environment Affairs said SA [South Africa] would find global direction and new environmental partners at the Earth Summit. On air pollution, the department said: "Emissions from coal and other fuel usage in South Africa include an estimated 308 million [metric] tons of carbon dioxide a year, about 1.6 per cent of total world man-made releases and perhaps twice the world per capita average. The likely implications of global warming and ozone depletion for South Africa are poorly understood."

On waste, the report said 428 million tons of waste were created annually. Commenting on this figure, Group for Environmental Monitoring spokesman David Cooper said it should be evaluated in the knowledge that only 50 per cent of South Africa's industrial waste went into official dumps. The country's large amount of mining waste, included in this figure, contributed to an extremely high waste quota per capita, by international standards, said Mr Cooper. Low waste disposal prohibition costs were also a factor.

Referring to water quality and supply, the government report said 65 per cent of the country received less than

500mm rain annually, the amount usually regarded as the minimum for successful dryland farming. Coupled with this was an estimated 53,500 million cubic metres of water wasted in runoff each year. "It is estimated that about 33,000 million cubic metres of annual run-off and 5,400 million cubic metres groundwater annually could potentially be exploited economically.

"Runoff and the discharge of effluents (into water systems) has led to a progressive deterioration in water quality," said the report. Linked to runoff problems, the country lost 300-400 million tons of land to erosion annually.

On the depletion of forests—which stabilise topsoil—the department said only a quarter of a million hectares of indigenous forest were still left in South Africa, most of it surviving in small patches. In rural, unelectrified areas of kwaZulu and the Transkei these forests were being exploited for timber. According to Mr Cooper, 30 per cent of South Africa's indigenous forest has disappeared over the last 15-20 years.

Linked to both air pollution and deforestation, the report estimated karoo scrubland had encroached eastwards into grassland areas by more than 140km this century. Invasive plants have infested about four million hectares of land and pose serious threats to ecosystem stability.

Commenting on the marine environment, the report said severe declines in three key fish species—pilchard, hake and kingklip—had occurred in the past three decades. "Increasing human population has put pressure on inshore resources. Linefish catches have decreased and show dramatic changes in species composition."

South Africa's position as one of the world's major shipping routes, with frequent oil spills affecting its waters, was noted. Stormwater runoff from metropolitan areas was also listed as a major source of marine pollution.

Affected by all of these threats to the natural environment—118 plants, eight fish, five amphibians/reptiles and three land mammals were considered endangered.

The department made no specific reference to the human population explosion, although analysts have noted its direct impact on the environment. Upward of 50 million South Africans in the year 2010 will demand more from natural resources and will create more waste, in a vicious cycle of pollution and depletion.

Mr. Cooper said conservationists were struggling to get the population issue onto the Earth Summit agenda, because of its racial connotations.

—South Africans at the Rio Conference will attend in their private capacities only, according to Deputy Environment Affairs Director Theuns van Rensburg.

South Africa is still not a full member of the United Nations, which is why the government will not be there officially. "We didn't want to create diplomatic embarrassment..."

Asked what he hoped would come out of the conference with reference to problems here, Mr van Rensburg replied South Africa needed financial aid like other developing nations.

The department had no problem with the African National Congress reportedly sending a delegation to the conference, he said, as it would be there in a private capacity and its environmental goals did not differ markedly with those of the government.

## UGANDA

### President Notes New Environmental Protection Laws

92WN0553A Kampala THE NEW VISION in English  
28 Apr 92 p 16

[Article by Jossy Muhangi: "Environment Laws To Be Instituted - Museveni"]

[Text] President Yoweri Museveni said over the weekend that the government is enacting environment protection laws which will be implemented more effectively than through mere education seminars. Mr. Museveni was addressing a gathering at Ibanda subdistrict headquarters during the commissioning of Mbarara Ibanda power project.

The President said that the laws will compel each landowner to plant trees in and around their land. He said this was aimed at protection of crops and soil against wind. He further said that it will also be compulsory for landowners to plant trees of their choice covering a tenth of the land.

On pasture lands, the President emphasised that each farmer will be required to plant shade trees which will also help in checking the erosion and in retention of soil water with their spread roots.

He noted that the effects of erosion were worst in the hilly areas and the law will demand that all uncultivated and uninhabited parts of the hill be covered by trees which will communally belong to the people in the neighbourhood.

Mr. Museveni argued that many natural rivers were being blocked or silted because of uncontrolled farming up to the river banks. He said the law will require that 50 metres of land on either side of the river be forested and ungrazed.

He noted that hydroelectric power was good but expensive and under competition, adding that wood fuel as the next alternative could only be viable with more strict measures against environment degradation.

Museveni told the audience that experience had shown that the enforcement of the environment protection measures needed no more compromise through appeals to people to plant trees and preserving what is existing.

He advised the people in rural areas to use the wood fuel effectively by using improved charcoal stoves. He said that the charcoal stove made out of clay uses less wood than the outdated method of using the tree firestones.

Mr. Museveni urged the Ministry of Energy to also tap alternative sources of energy like solar and geothermal

which will make use of the animal and kitchen refuse, as well as our hot springs especially in western Uganda.

He disclosed that according to experts, the hot springs like Semliki and Marembo in Kasese and Bushenyi, respectively, had a capacity of generating geothermal power worth 450 megawatts.

He said that biogas energy from cowdung and other refuse can be effectively tapped with the abundance of these resources in the country. Museveni said that the country is endowed with abundant hydroenergy resources but only lacked the capacity to exploit it.

### **Vice Premier Stresses National Water, Soil Conservation Policy**

*OW2205144092 Beijing XINHUA in English  
1427 GMT 22 May 92*

[Text] Beijing, May 22 (XINHUA)—Chinese Vice-Premier Tian Jiyun stressed today that the improvement of water and soil conservation is one of the long-term basic national policies of the country in its efforts to secure sustained economic development.

Tian made the remark at the fifth national meeting on water and soil conservation held in Beijing.

He pointed out that the problem of soil erosion has become one of the major obstacles for the development of the country's agriculture and the national economy.

The vice-premier said that in the past few years the central government has defined 14 severe soil erosion areas throughout the country and set aside special funds to carry out large-scale water and soil conservation projects in these areas.

He reiterated that the problem of soil erosion is still grim and the growth of population and the economy are putting greater pressure on the already-strained water and land resources.

Tian stressed that the country's target in the next decade is to carry out all-round water and soil conservation, and focus efforts on the improvement of seriously eroded areas including those along the Yellow and Yangtze Rivers.

He also urged governments at different levels to act according to the water and soil conservation law and make environmental achievements a factor in the appraisal of local officials.

### **Upper, Middle Yangtze Shelter Forest Progress Noted**

*OW3105085692 Beijing XINHUA in English  
0825 GMT 31 May 92*

[Text] Kunming, May 31 (XINHUA)—China has made progress in planting a shelter forest on the upper and middle reaches of the Yangtze River, the longest in the country.

Altogether 60 counties in this river valley are expected to grow trees on all the hills suitable for afforestation by the end of this year.

To improve the ecological conditions and promote economic development in the river valley, the Ministry of Forestry launched a drive of first phase afforestation among 200 counties in the valley.

So far the 60 counties have grown trees on 1.67 million hectares of barren hills suitable for tree growth. They are

expected to accomplish the state-set quota for afforestation on the middle and upper reaches of the Yangtze River in 1995 after filling the gaps with seedlings and strengthening management.

By the end of this year, the 200 counties had planted trees on 2.8 million hectares, fulfilling 42 percent of the first phase of the 12-year afforestation plan.

### **National Afforestation Efforts Yield Results**

*OW0606092492 Beijing XINHUA in English  
0836 GMT 6 Jun 92*

[Roundup: "China's Afforestation Keeps Up Momentum"]

[Text] Beijing, June 6 (XINHUA)—China's forest reserves now balance with consumption and the country claims the world's largest man-made forest resource, according to the Ministry of Forestry.

A recent survey shows there are 128 million hectares of afforested areas, an increase of 11 percent over that of 1981, and the decade's afforestation effort has boosted forest coverage from 12 to 13.4 percent.

The survey also indicated that China has achieved a surplus of 39 million cubic meters of timber annually over the past three years. This means that China's forest growth rate is faster than consumption for the first time in many years.

Forest officials attribute the achievement to the accelerated efforts in afforestation, adjustments to production, improved technology and a mass tree-planting campaign.

According to Zhu Guangyao, head of the afforestation department under the Ministry of Forestry, China is a country plagued by a shortage of forest resources. To improve its ecological environment, the Chinese Government has maintained a basic policy to "green" the country's territory. Intensified effort in forest cultivation, forest protection and management and rational use of forest resources have been given top priority.

In the massive afforestation campaign launched across the country since 1978, more than a third of China's population has taken part adding 3.3 million hectares of new forest annually, which resulted in the world's largest man-made forest.

The program has "greened" over 28 million hectares of farmland. Forest shelterbelts now cover another 24 million hectares and urban green space totals 19.2 percent.

Meanwhile, China has planted over 10 million hectares of trees in an attempt to prevent further desert encroachment. The effort has brought 10 percent of the desert under control and another 1.3 million hectares of desert has been turned into arable land.

Over the past 10 years, China has worked out a series of ecological projects such as the "Three Norths" Green Great Wall, the shelterbelts covering the Yangtze River Valley, coastal areas and the extensive plains.

But despite the progress in afforestation, forest officials admit that the country's forest and ecological reconstruction cannot match the modernization drive. The flood and drought disasters, sand encroachment and soil erosion have not been brought under control.

China plans to go on expanding its forest resources this decade by more planting and strict consumption control with the object of raising forest coverage to 15 or 16 percent of the land by the end of the century.

### **Progress Seen in Five Major Ecological Projects**

*OW0306121292 Beijing XINHUA Domestic Service  
in Chinese 2118 GMT 2 Jun 92*

[By reporter Zhang Jianjun (1728 1696 6511) and correspondent Feng Jiaping (1409 0502 1627)]

[Text] Beijing, 3 Jun (XINHUA)—China has started five large-scale ecological projects on 5.78 million square km of land, accounting for 62.2 percent of the country's total area. The projects cover China's major regions of soil erosion, sandstorm, typhoon, and saline-alkali soil.

In 1978 the State Council approved the plan for building the northeast, north, and northwest shelter-forest project. Later it successively approved the plan for shelter-forest projects in the middle and upper reaches of the Changjiang [Yangtze River], a coastal shelter-forest project, a plain farmland shelter-forest project, and a sand control project. These strategic measures have pushed China's ecological program onto a new stage of comprehensive development and construction. Their scale, speed, and accomplishment have attracted world-wide attention.

The northeast, north, and northwest shelter-forest projects call for building 35 million hectares of forest in 70 years. In the 12 years since its beginning, more than 7.3 million hectares of forest have been built and have survived, providing protection to 11 million hectares of farmland.

The shelter-forest project in the middle and upper reaches of the Changjiang was started three years ago. So far 2.66 million hectares of forest have been built, accounting for one third of the first-stage target.

The coastal shelter-forest project covers 11 provinces (region and municipality) on a 18,000-km strip of the southeast coast. By the end of 1990, a 10,600-km coastal primary shelter-belt had been completed with forests covering an area of 6.6 million hectares.

The plain farmland shelter-forest project covers 915 counties. To date 508 counties have met the plain greening standards set by the Ministry of Forests, and have attained the first-stage objective of the plain

greening plan. At present, trees have been planted around 28 million hectares of farmland on the plain regions, accounting for 73.5 percent of the total farmland of the plain region suitable for tree-planting. So fundamental changes have taken place in the ecological environment on the plain region.

The five on-going ecological projects have increased the country's forest area, improved its ecological environment, and played an important role in promoting economic development and making peasants become well-off. In 1991 there were 2,500 projects of diversified forestry-related undertakings in the northeast, north and northwest regions, with a total annual output value of 400 million yuan. The economic forests in the plain regions yielded 13.04 million metric tons of fruit which greatly invigorated the market and increased the income of peasant families. According to the statistics of 18 provinces, municipalities, and regions compiled by the Ministry of Forests, the annual forestry income of the plain regions was 7.4 billion yuan, and thus many peasant families have become rich.

China's ecological projects have attracted international attention. Over the last decade, experts from several dozen countries have come to China to conduct on-the-spot studies. In 1991 the U.N. Food and Agriculture Organization awarded China's Ministry of Forests a silver prize—the highest prize for afforestation—in recognition of China's achievements in afforestation.

According to the Ministry of Forests, after their completion, the five shelter-forest projects will provide adequate protection to 66.667 million hectares of farmland and will greatly improve China's ecological environment.

### **Iron, Steel Industry Environmental Protection System Takes Shape**

*OW0406074492 Beijing XINHUA in English  
0704 GMT 4 Jun 92*

[Text] Beijing, June 4 (XINHUA)—An environmental protection system has taken shape for China's iron and steel industry.

The industry has more than 20,000 personnel working on environment protection.

The Ministry of Metallurgical Industry has also set up environment monitoring centers in all provinces and regions in China and 85 iron and steel plants have established monitoring stations since the early 1980s.

During the Seventh Five-Year Plan period (1985-90) the metallurgical industry spent 1.69 billion yuan on more than 3,000 projects protecting the environment.



**Urban Environmental Program Detailed**

OW0306130392 Beijing XINHUA Domestic Service  
in Chinese 0920 GMT 2 Jun 92

[Circular issued by the State Bureau of Environmental Protection and the Ministry of Construction on improving environmental work—distributed “recently” by the State Council’s General Office]

[Text] Beijing, 2 Jun (XINHUA)—The State Council’s General Office recently distributed a circular by the State Bureau of Environmental Protection and the Ministry of Construction on their suggestions to further strengthen comprehensive environmental improvement work in urban areas, calling on government departments in all localities to thoroughly implement the circular.

Since the 1985 national conference on environmental protection work in urban areas, comprehensive efforts to improve the urban environment have been launched nationwide, thus effectively checking urban environmental pollution. But urban environmental protection remains a challenging task because the population is increasing and prevention and treatment of environmental pollution and infrastructural construction in urban areas lag behind urban economic development. To further implement the State Council’s relevant decision on improving the quality of urban environment, the circular made the following suggestions:

1. Clearly defining responsibility for undertaking comprehensive efforts to improve urban environment and setting up a mechanism for managing urban environment. City people’s governments shall be responsible for the quality of urban environment, launch comprehensive efforts to improve the environment, assign comprehensive environmental improvement work among relevant departments and units, set up a target responsibility system for environmental protection, and institute a system of quantitative assessment of results. City people’s governments must take the comprehensive improvement of urban environment as their important task and promptly resolve major problems in work by setting up and improving a management mechanism whereby work is shared by relevant departments and the masses take an active part in the comprehensive program to improve the urban environment under the unified leadership of the major.

2. Improving the comprehensive program for improving urban environment and attaining the target of urban environment protection. City people’s governments should organize relevant departments to draw up and improve plans for the comprehensive improvement of urban environment in accordance with the requirements set by urban development plans and the plan for national economic and social development, and make special effort to protect concentrated sources of drinking water and to improve the environmental quality of residential educational and cultural zones and scenic spots on the basis of setting up atmospheric, water, and noise functional [gong neng 0501 5174] zones in urban areas. The

major tasks of the 10-Year Program and the Eighth Five-Year Plan for the comprehensive improvement of urban environment throughout the country are as follows: Efforts will be made to check the expansion of urban environmental pollution by concentrating on the prevention and treatment of industrial pollution and the improvement of infrastructural construction and by coordinating national economic and social development with urban environmental protection step by step. During the Eighth Five-Year Plan period, efforts will be made to ease the expansion of urban environmental pollution, to improve the environmental quality of some cities to some degree, to alleviate the backwardness of urban infrastructural facilities to some degree, to bring urban environmental pollution basically under control by 2000, to improve the environmental quality of major cities to some degree, and to match the environmental quality of urban areas with people’s “comfortable” standard of living.

3. Making further efforts to prevent and treat industrial pollution by integrating the readjustment of the industrial setup with technical transformation in enterprises. Urban people’s governments and the relevant departments of the State Council should scientifically and rationally readjust the industrial setup, the product mix, and the energy, raw and semifinished materials structure on the basis of the state industrial policy; adopt measures to gradually eliminate the technology and equipment that consume too much raw and semifinished materials and energy that cause serious pollution, and to suspend the production of products which will cause serious pollution; and ban the use of technology and equipment which consume a great amount of energy and cause serious pollution. Industrial departments should strengthen control over production, set a quota for the consumption of raw and semifinished materials and a standard for technological designs for enterprises of the same trade, and ensure that the quota and standard are implemented. Enterprises should strive to enhance the recovery rate and the rate of comprehensive utilization of the “three industrial wastes” in conjunction with technical transformation, so as to turn the “three wastes” into resources. Cities with seriously polluted environment should adopt measures to control the discharge of pollutants step by step. They should see to it that newly added pollutants should be reduced in a balanced way in production zones or urban areas. In the course of undertaking capital construction and technical transformation, they should ensure that production is increased, whereas pollutants are not, by adopting measures that encourage new areas to guide the old ones, big areas to guide the small ones, and workers and peasants to guide one another.

4. Actively promoting centralized control of pollution and improving efficiency in pollution prevention. People’s governments in cities of all levels and relevant departments should change the composition of fuels consumed and the way heat is distributed in the cities, control pollution of the atmosphere, and make comprehensive and rational use of energy. When building a new

thermal power plant or expanding an existing one in urban areas, consideration should be given to combining the supply of electricity and heat in accordance with power consumption and heat supply needs. Existing medium- and low-tension condensing generating sets should be transformed into heat supply units or replaced by generating sets with bigger capacity in order to improve the energy utilization rate. Coal, petroleum, chemical and metallurgical departments should make the most optimum use of energy resources, distribute coal, combustible gas and exhaust heat suitable for household use to urban residents on a priority basis, and develop combustible gas and centralized heat supply to replace civilian-use coal-burning stoves and dispersed heat boilers. Coal producing and distributing units should improve coal processing, washing and selecting technology and capacity, actively expand the production of solid sulfide coal (gu liu xing mei 0942 4288 0992 3561), and supply the users with the types of coal needed. Machine-building departments should gradually eliminate outdated boilers and motor vehicles with poor fuel efficiency that discharge excessive amounts of pollutants, expand the application of fuel-efficient new products that cause minimal pollution, develop new combustion technology for coal-fired industrial boilers and furnaces, and bring sulfur dioxide discharge under control. Efforts will be made to concentrate, step by step, pulp mills, electroplating, heat treatment and other plants that cause serious pollution into one area and treat the discharged pollutants in a unified way. Report and registration are mandatory for discharge of toxic and harmful wastes; such wastes must be treated or disposed of under a unified plan so that they will not spread or cause any harm.

5. Stepping up construction of urban infrastructure and improving the overall capacity for preventing pollution. In developing new urban zones or renovating existing ones, we should follow the principle of "devising unified plans and measures suitable to local conditions in order to ensure rational geographical distribution and to facilitate development in a comprehensive and well-coordinated way." Continued efforts should be made to upgrade municipal facilities for urban water supply and drainage, public transportation and pollution treatment in order to improve municipal functions and the quality of the environment. In developing new urban zones or renovating existing ones in areas where home heating is necessary, centralized heat supply should be adopted as much as possible; as a general rule, no separate public heat supply boilers should be allowed. Active efforts should be made to spread the use of gas in cities. Natural gas extracted near urban centers should be supplied, first of all, to civilians to facilitate the replacement of small coal-fired stoves. In developing economic zones or residential zones, centralized heat supply, gas supply, selection of coal types, garbage collection and disposal, water supply and drainage systems, green areas, roads, and other municipal supporting facilities should be planned, built and completed simultaneously. During the period of the Eighth Five-Year Plan, large- and medium-sized

cities should improve urban water drainage systems—sewage conduits in particular—build sewage treatment facilities and oxidation ponds [yang hua tang 8638 0553 1048] in a planned way, adopt other scientific measures to deal with the problem of sewage discharge, and concentrate efforts to improve river sections in urban areas—ditches, tunnels, lakes and ponds as well—whose water quality is incompatible with local water needs. Large and medium cities should, step by step, spread the use of containers in garbage collection and adopt sealed garbage transportation. In the near term, turning garbage into compost through heat treatment and placing it in pits are the principal methods of disposal. We should improve sanitation in urban and suburban areas, avoid using arable land, encourage recycling of garbage, and reduce the volume of garbage. It is necessary to bring traffic noise and pollution from vehicle emissions under control. Efforts should be made to improve the urban ecological environment by planting trees, developing grasslands, and raising the green coverage rate.

6. It is necessary to unclog and widen the channel of capital fund flow and expand the source of the fund. Urban people's governments should adopt economic policies which help improve overall environmental conditions, and should open up the channels of capital fund. Environmental protection and urban construction funds should be made available according to state budget and used rationally, and budget for environmental protection should be properly increased. The profit share retained for comprehensive use should be used in treating industrial waste gases, liquids and residues. Income from sale of land use rights should be primarily used in urban construction and land development. Enterprises and institutions which can exercise concentrated pollution control should put aside a portion of the pollution control facility construction funds in connection with their new construction projects, expansion projects or renovation projects, and use the retained portion in building concentrated processing facilities. The pollutant discharge fees and the above-norm pollutant discharge fees collected in accordance with relevant regulations should be used in treating major pollution problems and in comprehensive pollution control.

7. It is necessary to step up urban pollution control and strengthen the supervisory and law-enforcement forces. The environmental protection departments of urban people's governments should exercise unified supervision and management of environmental protection. Urban construction departments should exercise unified supervision and management of urban construction. Public security, transport, and land departments should also ensure effective supervision and management in accordance with relevant laws and regulations and their functional duties. Urban construction supervisory personnel and environmental protection supervisory personnel should wear unified insignia and show their identification when conducting supervisory inspection. They should strictly perform their functional duties and enforce the law.

### City of Tianjin Improves Environmental Conditions in 1991

OW0406093292 Beijing XINHUA Domestic Service  
in Chinese 1427 GMT 3 Jun 92

[By reporter Dou Heyi (4535 0678 5030)]

[Text] Tianjin, 3 June (XINHUA)—The communique on Tianjin Municipality's environmental conditions, which was released today, shows that economic development has not led to a deterioration in this city's environment, what is more, environmental quality has generally improved.

Zhou Jing, deputy director of the Tianjin Municipal Environmental Protection Bureau, said: While Tianjin Municipality marked a 4 percent growth in total annual output value of goods and services and an 8.4 percent increase in gross industrial output value in 1991, industrial pollution was basically controlled; and the major indices of environmental quality maintained the same level or a downward trend, compared with those in the previous year.

The quality of the atmospheric environment reached the best level in the past decade. In 1991, the daily average amount of suspended particles in the air, the daily average amount of carbon monoxide, and the monthly dust fall volume in urban areas of Tianjin Municipality were 0.25 mg [milligrams] per cubic meter, 1.86 mg per cubic meter, and 16.4 tons per square kilometer, down by 13.8 percent, 15.8 percent, and 18.9 percent from last year, respectively. The daily average amount of sulphur dioxide and the daily average amount of nitrogen oxides in the year were 0.14 mg per cubic meter and 0.05 mg per cubic meter, which were the same level as last year.

The quality of Tianjin Municipality's drinking water, sourced from the Luan He, continued to be in good condition in 1991. Among the 20 indices, 98.8 percent of them met standards, up by 2.4 percent from last year.

The volume of solid waste produced by Tianjin's industrial enterprises in 1991 dropped by 5 percent from the previous year. Sixty-nine percent of the solid waste was used in one way or another through recycling, up 4.7 percent over last year.

Zhou Jing attributed the achievements in environmental protection to the continuous overall checks on comprehensive control of environmental indices, the implementation of the target responsibility system, relying on scientific and technological progress, and reinforcing environmental management.

### People's Liberation Army Stresses Environmental Protection

OW0306131892 Beijing XINHUA Domestic Service  
in Chinese 0500 GMT 3 Jun 92

[By reporter Cao Zhi (2580 2535) and correspondent Hao Peng (6787 7720)]

[Text] Beijing, 3 Jun (XINHUA)—The People's Liberation Army [PLA] in recent years has spent a large amount of money on treating thousands of sources of pollution and has effectively improved the environment in and around the barracks. Premier Li Peng praised the PLA for paying attention to environmental protection and playing a leading role in promoting environmental protection across the country.

The PLA has dealt with the following sources of pollution: waste liquid with germs from medical organizations; radio isotope waste liquid; the three wastes [gases, liquid, and residue] and noise from chemical works and repair plants; smoke and dust from boilers; waste liquid from missile propellants; radioactive waste; electromagnetic radiation; motor vehicle exhaust; and oil-content waste water discharged from ships.

With efforts made by the entire PLA, the PLA environmental protection work which was started in the 1970's has gradually become regular work governed by laws and regulations. Over the last several years the PLA has successively promulgated such environmental protection regulations as "Environmental Protection Regulations of the Chinese People's Liberation Army," "Environmental Protection Procedures for Military Factories," "Provisions for Management of Hospital Waste Liquid Processing Stations," and "The All-Army Eighth Five-Year Plan and the 10-year Program for Environmental Protection." These regulations have become the basis for the PLA's environmental protection work. To clarify the obligations and responsibility of pollutants, the PLA environmental protection committee has decided that from now on it will publish annually the names of major army units which pollute the environment as well as the units which cause serious pollution and neglect pollution control. The committee will take administrative action to require those units to make corrections within a prescribed time.

While protecting the environment according to law, the PLA units have effectively made comprehensive efforts to improve the environmental conditions in barracks and military installations. They have built 2,900 garden-like barracks. A number of offices, troop units, military schools, hospitals, warehouses, airfields, military harbors, and factories have successfully landscaped their surroundings. In order to apply science and technology in environmental protection, the PLA has successively set up an "All-Army Environmental Protection Monitoring Center" and an "All-Army Environmental Science Research Center." Corresponding organizations have also been established at all major units of the PLA. So an environmental science research network has taken shape, with more than 100 scientific research results achieved in recent years.

### Poll Shows Increased Environmental Awareness

OW0506035192 Beijing XINHUA in English  
0229 GMT 5 Jun 92

[Text] Beijing, June 5 (XINHUA)—A recent opinion poll shows that the awareness of environmental conditions has been obviously enhanced among Chinese people.



According to the poll, the results of which were released here today, 81.1 percent of the 2,217 respondents said that they were "not so satisfactory" or "unsatisfactory" about China's environmental conditions, while only 7.3 percent said that they were "unclear" about the problems.

The poll was conducted jointly by the State Administration of Environmental Protection and the CHINA YOUTH NEWS among people in Beijing and Shanghai Municipalities, and Shaanxi, Guangdong, Gansu and Anhui Provinces.

Some 515 of those questioned were government ministers, provincial governors, mayors and other senior Chinese officials; the rest were students, shop assistants, journalists, scientists, factory managers and housewives.

Asked what is the most serious environmental problem hindering China's socio-economic development, 35.8 percent of the respondents fingered "damages to the natural ecology" as the biggest problem.

Environmentalists were surprised by the amount of concern about the country's ecological problems shown by the poll. "This indicates that many Chinese are aware of the country's environmental problems," an official from the State Administration of Environmental Protection noted.

In the meantime, 26.8 percent of those questioned called air pollution China's worst environmental problem, while only 4.8 percent considered noise the biggest problem.

"This constitutes a sharp contrast to the industrialized countries, where more than 40 percent of the environmental complaints are about noise," a researcher remarked.

Asked about global environmental problems, 41.5 percent of the answers regarded population, housing and traffic as the biggest global problems.

Part of the answers considered global warming, depletion of ozone layer, and acid rain as the worst global environmental problems.

Most Chinese are concerned about the environmental problems which affect their daily lives. But the survey also indicates that they tend to rely on the government rather than on themselves to solve these problems.

For example, many Chinese cities are short of water. But 61 percent of those questioned said that "further exploitation of surface water and ground water" was the solution. Only 12.8 percent thought raising the price of water would solve this problem.

#### **Construction of Atmospheric Observatory Scheduled**

OW0506101592 Beijing XINHUA in English  
0904 GMT 5 Jun 92

[Text] Xining, June 5 (XINHUA)—Construction of an atmospheric baseline observatory will begin soon on

Waliguan Mountain in Gonghe County which is located in the Tibetan autonomous prefecture of Hainan in northwest China's Qinghai Province.

The project is the first of its kind in Eurasia to be set up by the world meteorological organization.

The observatory will join the early stage warning system used by the World Meteorological Organization to monitor the level of ozone, greenhouse gases and acid rain in the atmosphere. At present, the organization has opened 12 observatories in American, African, Oceania and European coastal areas.

The organization decided to build the observatory in Qinghai in 1991, following a two year search for an ideal site in China, the former Soviet Union and India.

Last March, Zou Jingmeng, director of the State Meteorological Bureau, signed an agreement with the World Meteorological Organization in Geneva for the establishment of the observatory.

The observatory is expected to play an important role in providing valuable data for Chinese and foreign experts involved in monitoring the global climate and environmental pollution.

#### **Environmental Protection Agreement Signed With UNDP**

OW0606130692 Beijing XINHUA Domestic Service  
in Chinese 1445 GMT 5 Jun 92

[By reporter Zhuo Peirong (0587 1014 2837) ]

[Text] Beijing, 5 Jun (XINHUA)—The Ministry of Foreign Economic Relations and Trade and the Ministry of Finance today signed a number of cooperation agreements and documents on environmental protection with the United Nations Development Program (UNDP) and the World Bank in Beijing.

They include a "coal program," a "coal seam gas" program and document, and a "natural gas" program and document.

The coal program is a relatively large project with aid from the United Nations; total investment is \$14.9 million, of which the UNDP will provide \$7.4 million while our government will contribute \$7.5 million. The entire cooperation program includes the development of coal cleansing technology, coal coking technology, circulated fluidized beds, and four other projects. The program's goal is to assist the Chinese government in fully

utilizing coal resources and related new energy sources; and in the meantime, to reduce air pollution and protect the environment.

The coal seam gas program will assist our country to adopt domestic and foreign-made advanced technology to obtain natural gas from coal seams, as a new energy source to be directly used by industrial enterprises and city fuel systems. The total deposits of such gas from coal seams less than 2,000 meters deep is approximately 3.5 billion cubic meters; such gas has never been tapped or utilized. Some mines have extracted gas from coal seams and caused air pollution, and coal seam gas in some places has caused fires. Total investment in this project is \$10 million, which will be provided by the Global Environment Fund established by the World Bank and the UNDP.

Xu Pengfei, head of the China International Economic and Technological Exchange Center, and representative of the UNDP (Mac theme) [ma shou xin 7796 1343 0207] signed the documents for these programs.

Luo Qing, head of the World Bank Division of the Ministry of Finance, and (Thomas) [song mo zhi 1345 7817 0037], chief representative of the World Bank in China signed a document for the "natural gas" cooperation program. The total investment for this program is \$2.5 million.

Our government has been seeking international cooperation in environmental protection over a long period. During the past decade since the establishment of cooperative relations between China's Ministry of Foreign Economic Relations and Trade and the UNDP, our country has attached importance to the field of environmental protection and has signed agreements for 19 projects using total aid of \$40 million. Meanwhile, our government has also provided several hundred million yuan for these projects.

#### **Tibet Chairman Views Environmental Protection, Development**

*OW0506044892 Lhasa Tibet Television Network  
in Mandarin 1300 GMT 4 Jun 92*

[Televised speech from the "Tibet News" program by Gyaincain Norbu, chairman of the Tibet Autonomous Region, to mark the 20th anniversary of the publication of "Mankind's Declaration on Environment": "Develop Tibet's Economy and Protect the Plateau's Environment"]

[Text] Comrades, friends, tomorrow is World Environment Day, which is also the 20th anniversary of the publication of "Mankind's Declaration on Environment." I want to talk about the problems of environment and development, which are common concerns to us all.

The environment is the foundation of mankind's existence and development. The root cause of environmental

problems, in the final analysis, can be traced to mankind's irrational utilization of environmental resources. Mankind is now facing a series of environmental problems on a global scale. Changes in climate, damage to the ozone layer, desertification, disappearance of forest, reduction and extinction of species, exacerbation of soil erosion, insufficient fresh water, and water pollution have increasingly posed severe challenges to mankind's sustained development and existence conditions.

The purpose of the United Nations in publishing "Mankind's Declaration on Environment" was to call on mankind to stress protection and improvement of the environment if it wanted to continue to exist and develop.

Our government has attached great importance to the work of protecting the natural environment; made it one of the basic national policies; formulated a number of effective principles and policies on environmental protection; paved a road toward environmental protection which is adapted to China's situation and has Chinese characteristics; and made unremitting efforts to improve environment.

All levels of government and the departments in our region have implemented the state's principles, policies, laws, and measures relating to environmental protection. People in the whole region have worked hard to constantly improve the environment in our region and promoted the economic construction.

As economic and social development give rise to environmental problems, the ways to solve environmental problems and prevent them may be found in the course of development. Development causes environmental problems, but it also serves as a motivation force in solving them.

We should strive for a coordinated development of population, economy, and environment. While developing the economy, we should give equal attention to both the law of economy and nature; otherwise the objective law will penalize us.

On this point, we should draw a lesson from both domestic and foreign experience. At present, we are faced with an arduous task in protecting the environment in our region. Our region is one of our country's underdeveloped regions. If we want to make Tibet prosperous and realize the socialist modernization construction, we must prioritize the development of the national economy and center all our efforts on economic construction.

Therefore, as an important part of the national economic and social development, we should make the work of environment protection always serve the general goals of socialist modernization construction; make it better promote the development of economic construction; and improve the quality of people's living standards.

At the same time, in the course of economic development, we should prevent environmental pollution and ecological damage and strive for a coordinated development speed for environmental protection, improvement, and for the national economy.

In future work it is necessary for all levels of government and the departments to properly deal with the relationship between environmental protection and economic development; help solve practical issues; continuously adhere to the strategic tasks of formulating development plans and implementation measures for economic, urban, rural, and environmental construction; follow the principle of seeking unity for economic, social, and environmental efficiency; include the work of environmental protection in the national economic and social development plan and in the annual plan, so as to achieve a balanced and coordinated development for environmental protection and various kinds of construction.

It is necessary to stress development, utilization, and protection of resources and rationally use natural resources.

Economic conditions permitting, we should carry out environmental protection construction in a planned, step by step, and purposeful way; protect and improve the ecological environment; step up management of the environment; implement policies that stress prevention of environmental pollution together with a policy of "whoever pollutes the environment must be made to remedy it and whoever carries out development must be held responsible for protecting the environment"; mobilize the initiative and creativity of various departments, units, and people on protecting the environment; step up work on formulating laws and regulations for environmental protection; improve existing laws and regulations on environmental protection in our region; inspect the implementation of laws and regulations; gradually systematize environmental management; gradually build an environmental protection structure which provides a unified management; bring about mutual coordination; organize a division of labor; assign respective responsibility to responsible persons at all levels of government, environmental protection agencies, and economic management departments; devote great efforts to training environmental protection technical personnel; gradually establish and improve the environmental monitoring network so as to efficiently monitor environmental changes; energetically launch publicity and educational campaigns on environmental protection; constantly raise the awareness of people in the region of environmental protection as well as their scientific

knowledge of the environment; strengthen scientific research on environmental protection; rely on technological progress to improve the environment; and carry out environmental-protection cooperation and exchanges with other domestic regions and with foreign countries, so as to promote the development of environmental protection work in our region.

We are convinced that if we constantly sum up experiences from actual work; walk along our country's road to environmental protection; take into consideration our region's actual situation; and constantly develop and improve, we will score new achievements in our region's environmental protection, and will surely promote the development of our region's economic construction.

### **Tibet's Environmental Monitoring Station Playing 'Important' Role**

*OW0506103792 Beijing XINHUA in English  
1001 GMT 5 Jun 92*

[Text] Lhasa, June 5 (XINHUA)—The Tibet Autonomous Regional Environmental Monitoring Station - the first of its kind on the roof of the world - is playing an important role in Tibet's environmental protection.

The station, built with 3.9 million yuan grant from the central government, has the most advanced monitoring devices and equipment in China and has become the authoritative environmental reporting center for Tibet.

The station director, Zhang Tianhua, says monitoring results show that Tibet is one of the areas in the world least affected by pollution and the sky remains the bluest.

"Since the founding of the monitoring station the central and regional governments have paid a lot of attention to staff training. All 25 members, 50 percent of whom are Tibetans, at the station have received special training," according to Zhang.

Over the past five years the station has carried out contamination monitoring of the air, noise levels and water purity as well as investigations into soil conditions and natural radiation levels in cooperation with other departments.

The central and regional governments plan to invest a further 2.4 million yuan this year in building two more environmental monitoring stations in southern Tibet's Xigaze and eastern Tibet's Qamdo. They will form a modern environmental monitoring network across the autonomous region.

## JAPAN

**Survey Shows Major Companies Favor Environment Tax**

*OW2105085292 Tokyo NIHON KEIZAI SHIMBUN in Japanese 20 May 92 Morning Edition p 5*

[Text] The Environment Agency announced the outcome of a "Survey on Actions of Environment-Friendly Enterprises" on 19 May, and the outcome reveals that about 68 percent of major enterprises either "approve" of the introduction of an environment tax or surcharges or "feel the introduction is inevitable."

Also, more than 70 percent of enterprises take a positive view of investment in environmental preservation. According to the agency, the survey reveals that enterprises feel they must play a certain role in environmental preservation, including sharing the cost.

The Earth and Human Environmental Forum Fund was commissioned in 1991 to conduct the survey of 2,080 major enterprises, most of them listed on the stock exchanges. A total of 319 enterprises (accounting for 15.3 percent) responded to the survey.

On the issue of introducing an environment tax or surcharge, 5.6 percent of respondents said "they should be introduced in a positive way," and 62.1 percent said "introduction is inevitable."

Taken together, this means that nearly 70 percent of enterprises approved of the introduction. Those "opposed to" the introduction accounted for 11.9 percent.

Replying to a question asking how they would handle the environment tax or surcharges on their introduction, 7.5 percent said they would "shift the cost increase entirely to prices"; 34.8 percent wanted to "shift it partially to prices"; and 9.4 percent "did not want to involve prices."

**MITI Opposes Proposed Tax on Carbon Dioxide Emission**

*OW2405075892 Tokyo KYODO in English 0721 GMT 24 May 92*

[Text] Tokyo, May 24 KYODO—An advisory body to the International Trade and Industry Minister has compiled a report opposing a tax on carbon dioxide emissions to help poor nations protect the environment, ministry officials said Sunday.

The report by the Subcommittee on the Earth Environment under the Industrial Structure Council says preservation in developing countries should be pursued through technological and personnel assistance rather than by donating money.

It says there are no grounds for the figure of 125 billion U.S. dollars per year needed by such nations until 2000, as estimated by the secretariat of the June 3-14 Earth Summit in Rio de Janeiro.

Differences in stages of economic development and energy consumption among countries make it difficult to impose a uniform "environment tax," the report obtained by Kyodo News Service says.

Innovations in technology and every other field, along with economic growth, are needed to bring the polluted planet back to life, it says.

The subcommittee will authorize the report Wednesday, the officials said.

**Official Examines Continuing Environment Tax Debate**

*OW0306040492 Tokyo KYODO in English 0215 GMT 3 Jun 92*

["News Focus" by Keiko Tatsuta: "Tax Debate Blurs Method of Protecting Global Environment"]

[Text] Tokyo, June 3 (KYODO)—The vague idea of an "environment tax" has become a growing talking point in Japan as world leaders and negotiators gather for the earth summit in Rio de Janeiro to discuss ways to save the global environment.

But the possible effects, good or bad, of such a tax have yet to be studied.

"People's understanding is essential to realizing an environment tax," said Hiroya Ichikawa, industry and telecommunications department director of the influential Federation of Economic Organizations (Keidanren).

To this end, the government should present to the public findings and data from careful analysis and research before discussing introduction of such a tax, Ichikawa said.

While preferring a tax for its market principles to direct regulation on use of destructive chemicals, Ichikawa said considerable price hikes would be necessary for worthwhile results, affecting not only industry but the entire public.

Initially, the idea of the tax came up during the mid-April Eminent Persons' meeting in Tokyo as a means of collecting funds to help developing countries protect the environment. In this sense, it has the nature of an international contribution tax.

The secretariat of the earth summit, officially known as the UN Conference on Environment and Development (UNCED), has estimated the funds needed by developing nations at 125 billion U.S. dollars per year from 1993 until 2000.

The money is mainly needed for eradicating poverty, constructing houses, and developing energy, the secretariat said.

Ichikawa urged transparent policy making, saying, "first, the government must clarify how much money Japan should provide, who will use such money for what purpose, and what effects are expected.

North European countries introduced a tax on carbon dioxide emissions in 1990 and have used the revenue for domestic environmental protection measures, not for developing nations.

However, the tax led to jumps in prices for gasoline and other fossil fuels, damaging industry and the economy before helping preserve the environment.

The debate in Japan centers on the two purposes of such a tax—financial assistance to developing countries and protecting the environment by curbing carbon dioxide emissions.

The Ministry of International Trade and Industry (MITI) contends there are no grounds for UNCED's estimate for the needs of developing nations and specific measures to protect the environment and their effects are unclear.

In terms of curbing emissions, the ministry gives priority to technological approaches, including effective use of energy, stressing the need for careful examination of any tax because it could have considerable impact on production, consumption, and other economic activity.

On condition of anonymity, a senior MITI official said a tax "will spoil industries' vitality."

Ryuhei Wakasugi, environmental policy division director of MITI's Industrial Location and Environmental Protection Bureau, said, "we have to carefully study the effects of something like a tax on carbon dioxide emissions, even if the revenue is used only for technological innovation by affected companies."

The Finance Ministry, although also cautious on the issue, is seen as an advocate which would rather support introduction of a tax for a certain purpose because of the country's tight budget.

Keidanren's Ichikawa said government ministries and agencies are handling the issue in different ways.

"Introduction (of a tax) for the sake of each ministry's or agency's interests would trouble people the most," Ichikawa said.

The growing interest in the environmental issues indicates Japanese are gradually becoming ready to pay, so long as the money is used for domestic matters such as garbage disposal, farm chemical contamination, and energy conservation, as well as global threats like acid rain and warming.

However, Ichikawa said, "there's only a vague sense of a crisis. Do you think the people will accept, say, a 15 percent consumption tax even for protection of the global environment?"

Japan introduced a 3 percent consumption tax in April 1989.

Obtaining a complete scenario from thorough research is indispensable for gaining public understanding and behind-the-scenes' decision-making by the government would be absolutely unacceptable, Ichikawa said.

#### **MITI Minister Gives Guidelines to New Environment Panel**

*OW2105083892 Tokyo KYODO in English 0734 GMT 21 May 92*

[Text] Tokyo, May 21 KYODO—International Trade and Industry Minister Kozo Watanabe gave guidelines Thursday to a newly formed panel that is to work out comprehensive measures to protect the environment and curb energy use.

Watanabe told the first meeting of the panel that the measures should be worked out on the basis of international cooperation, technological innovation from a long-term perspective, and balanced economic growth.

Hideo Suzuki, head of the ministry's Industrial Location and Environmental Protection Bureau, said other important tasks were drastic reform in the energy supply-demand structure and an earth revival program through international cooperation.

The panel, headed by Vice Minister Yuji Tanahashi, is to work out concrete measures by this fall on industrial structures in harmony with the environment, international assistance to deal with energy, and other themes, ministry officials said.

#### **Panel Says Technology May Keep CO<sub>2</sub> Emissions at 1990 Level**

*OW2405042892 Tokyo KYODO in English 0355 GMT 24 May 92*

[Text] Tokyo, May 24 (KYODO)—Carbon dioxide emissions can be restricted to the 1990 level by the year 2000, an environment agency panel tackling global warming measures said Sunday.

The panel said in a report that it is possible to keep carbon dioxide emissions at the 1990 level by combining existing energy-saving techniques, such as insulation for buildings and generating electricity from waste heat, and other techniques to be developed in the future.

Most countries, including West European countries and Japan, have set a target of holding carbon dioxide emissions at 1990 levels by 2000.

Carbon dioxide, emitted by burning fossil fuels such as oil and coal, is considered one of the main causes of the



greenhouse effect which traps heat in the earth's atmosphere and contributes to global warming.

In October 1990, Japan's government action plan for combating global warming set the carbon dioxide emissions target per person for 2000 at the 1990 level.

The environment agency panel listed existing and potential energy-saving techniques in sectors such as public welfare, industry and transportation, and calculated the effect of each technique and added them up, the report said.

For example, if the use of electricity-saving motors increases 50 percent, carbon dioxide emissions be reduced by 19.58 million tons, the report said.

As a result, the total carbon dioxide emissions by the various sectors would amount to 97 to 104 in the year 2000, compared with the base figure of 100 in 1990, the panel said. It concluded that the target set in the action plan could be achieved.

Specifically, in the public welfare sector, demands for energy are increasing, although the use of insulation or efficient lighting in buildings is spreading, and carbon dioxide emissions will increase by 12 to 23 percent, the report said.

But in the industrial field, carbon dioxide emissions can be reduced by 4 to 13 percent with the promotion of energy saving, such as generating electricity from waste heat, and the increase in the number of nuclear power plants, which does not emit carbon dioxides, it said.

In the transportation field, emissions can be restricted to a 3.5 percent increase by improving the consumption rate of fuel or by increasing the number of small cars, the report said.

The environment agency pointed out, however, that spreading countermeasure techniques, such as introducing standards for the emissions, is essential to achieving the goal.

#### **White Paper on Environment Released**

*OW2605023692 Tokyo KYODO in English 0138 GMT  
26 May 92*

[Text] Tokyo, May 26 (KYODO)—Households in Japan are discarding more waste than ever, at a rate of increase that is among the highest in the world, the Environment Agency said in the 1992 white paper on the environment released Tuesday.

The annual report said household waste in Japan remains relatively low by international standards, but warned that space and time may be running out.

"The amount of domestic waste per person in Japan is not inordinately high when considered in terms of international comparison," the report said.

"However, in the five years from 1985 to 1989, the rate of increase in domestic waste per person in Japan was among the highest in the world.

"For a country such as Japan, where the area for waste disposal is scarce, keeping the lid on the increase in domestic waste is becoming a major issue."

The paper said that in 1988, it estimated that there was only about four years worth of space left in the domestic waste disposal sites in Tokyo, Chiba, Kanagawa, and Saitama Prefectures.

The paper said the amount of industrial waste in 1985 was 312.27 million tons, or seven times that in 1985.

It said the situation was "particularly acute" in the metropolitan region where available industrial waste disposal space decreased from 20.17 million cubic meters in 1986 to 7.14 million cubic meters in 1989.

The paper said the situation is now so grave that industrial waste is being shuttled from one prefecture to another in the search for places to dispose of it and illegal dumping is becoming a "serious problem."

Complaints about offensive noises and smells increased throughout Japan in 1990, the report said.

It said that in 1990 the most common complaint registered with public authorities, or 24.6 percent of the total, concerned noise, followed by reports about odors, at 15.4 percent of the total.

It said the major sources of noise are factories and "other sites of commercial or industrial activity," followed by construction and late night business activity.

"The rate of achievement of environmental quality standards regarding automobile traffic noise worsens each year," it said.

The paper said that measurements from 4,585 monitoring points around Japan in 1990 showed no more than 13.3 percent of the locations met environmental noise standards all day long.

The paper said the data show a "steadily worsening trend" at 1,056 points where noise has been measured over the past five years.

The paper also said most Shinkansen bullet trains between Tokyo and Fukuoka meet vibration guidelines, and the Tohoku and Joetsu lines have achieved the guidelines, but said "there are numerous locations" where noise guidelines are not met.

"In accordance with efforts in recent years to accelerate the Shinkansen, it will be necessary to take adequate measures to ensure that noise conditions will not deteriorate," the paper warned.

The paper cited the growth of suburbs as one of the main reasons for the increase in complaints about offensive odors.

"As urban sprawl pushes residential areas further away from the city, residents frequently find themselves living next to factories that had been located in the rural area for a long time," the paper said.

It said 28.2 percent of the complaints about offensive odors concerned factories, 24.2 percent concerned livestock and farming, and 21.9 were related to the service sector.

#### **MITI Develops Commercially Applicable CFC Disposal Method**

*OW2705175092 Tokyo KYODO in English 1507 GMT 27 May 92*

[Text] Tokyo, May 27 (KYODO)—The Ministry of International Trade and Industry (MITI) said Wednesday it has developed a method for breaking down large amounts of chlorofluorocarbons (CFCs) harmful to the ozone layer.

The ministry said one of its institutes specializing in research into resources and the environment, within the agency of industrial science and technology, has developed the pioneering technique which uses a reaction furnace, an exhaust gas tower, and a waste water processing tank.

It is the first time a system for breaking down CFCs on a significant scale has been produced and the ministry is considering developing it for commercial application, ministry officials said.

CFCs and water are first mixed in the reaction furnace and heated with a high frequency electric current to about 10,000 degrees centigrade until the electrons are stripped from the atoms to form a plasma.

The resulting chemical reaction gives off fluorine compounds and hydrochloric acid which are then neutralized with sodium hydroxide to produce harmless substances like calcium fluoride (fluorspar), edible salt, and sodium bicarbonate.

The main advantage of the method is that it requires only water and any impurities are broken down in the same way as the CFCs, the officials said.

Until now the maximum amount of CFCs which could be broken down per hour was 0.8 kilograms, but under the new method, by improving on the construction of the reactor furnace and maintaining the water in a vaporized state, the researchers were able to boost the amount to 50 kilograms, they said.

This is equivalent to disposing of the combined volume of CFCs in 280 household refrigerators, the ministry officials said.

The research center developed the process in cooperation with a consortium which includes Tokyo University, Tokyo Electric Power Co., Nippon Steel Corp., and

Jeol Ltd. (Nihon Denshi) which is Japan's largest manufacturer of electron microscopes and a member of the Mitsubishi group.

The experiments used CFC 12, but the researchers say they expect to achieve virtually the same results with other CFCs and halons.

#### **Toyota To Phase Out Use of Ozone-Depleting Agent**

*OW2905114292 Tokyo KYODO in English 1114 GMT 29 May 92*

[Text] Nagoya, May 29 (KYODO)—Toyota Motor Corp. Friday said it will phase out the use of trichloroethane, a chemical believed to deplete the ozone layer, by the autumn of 1995.

Trichloroethane is widely used in Japan as a cleaning agent.

Toyota last year used 4,050 tons of the chemical to clean bumpers and other plastic parts and metal parts.

Company officials said Toyota will introduce alternative cleaning processes at an estimated cost of 10 billion yen.

#### **Endangered Species Protection Bill Enacted**

*OW2905051392 Tokyo KYODO in English 0449 GMT 29 May 92*

[Text] Tokyo, May 29 (KYODO)—A bill to preserve endangered species of wild flora and fauna became a law Friday after the House of Councillors unanimously passed the measure. In addition to protecting birds and animals, the new law will be the first in Japan to extend protection to insects, fresh-water fish, amphibious species, and flowering plants. It will also place a general ban on the capture, harvesting, sale, import, or export of such species.

The new law, effective April 1, 1993, will allow for the designation of certain marshlands, rivers, and forests as "habitat protection areas" and bans human entry or development in those areas. Offenders would receive a maximum one-year jail sentence or a fine of up to 1 million yen.

The Environment Agency is preparing an endangered species list that will include about 20 types of insects, mammals, and plants as well as 43 varieties of birds over the next five years. Animals on the list include the Iriomote wildcat found on Iriomote Island in Okinawa Prefecture and Blakiston's fish owl.

Until now, Japan's laws on international trade in endangered wildlife species have come under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

**Tokyo Endorses Global Satellite Data Networks**  
*OW3005025792 Tokyo KYODO in English 0128 GMT  
30 May 92*

[Text] Tokyo, May 30 KYODO—Japan plans to build worldwide satellite data networks with the United States and Europe to observe the earth's environment from space, government officials said Saturday.

The Science and Technology Agency and the National Space Development Agency of Japan, the U.S. National Aeronautics and Space Administration, and the European Space Agency will exchange and use environmental data collected by satellites over their areas, the officials said. The data will cover how carbon dioxide from vehicles and industries circulates around the earth, how acid rain damages forests, and other environmental conditions, the officials said.

Japan, the United States, European countries, India, and other countries independently use satellites to observe the environment. There is, however, no international network to exchange the data from the satellites, the officials said.

The officials said Japan will cooperate with China and Russia to observe the environment in the former Soviet Union and Asia, and the three countries will exchange satellite data and cooperate to improve data collection. In addition, Japan will share its satellite observation data with Russia and both countries will develop sensors to observe the earth's environment, the officials said.

Japan will disclose its willingness to cooperate with other countries when the United Nations holds the Earth Summit in Brazil from June 3 to 14. During the summit, Britain also will report on the details of an accord drafted at a conference on satellite observation held by Japan, the United States and 10 other countries last April.

**Government Offers Brazil Loans for Environmental Projects**

*OW0306234292 Tokyo KYODO in English 2303 GMT  
3 Jun 92*

[Text] Tokyo, June 4 (KYODO)—Japan is to offer a total of 99 billion yen in loans to Brazil to support the country's fight against environmental problems, Japanese Government sources said Thursday.

The money will be used for river improvements and two other projects, the sources said.

The yen loans follow an agreement on rescheduling Brazil's official external debts at a meeting of creditor nations in Paris in February, they said.

The decision on the 99 billion yen loan package will be conveyed to the Brazilian Government during the Earth Summit in Rio de Janeiro, which began Wednesday, the officials said.

On Tuesday, the Export-Import Bank of Japan announced a 300 million U.S. Dollar loan package to Brazil—250 million dollars for private-sector development and 50 million dollars to combat industrial pollution.

## SOUTH KOREA

**815.5 Billion Won To Be Invested in Preservation Program**

*SK2105085792 Seoul YONHAP in English 0809 GMT  
21 May 92*

[Text] Seoul, May 21 (YONHAP)—South Korea will invest 815.5 billion won in an environmental preservation program spanning the decade from the latter half of this year to 2001, the Environment Ministry announced Thursday.

The ministry said the huge sum would include 262.5 billion won to develop 22 ultra-modern technologies, and 140.1 billion won in private investment.

From July this year through 1994, efforts will focus on developing highly efficient electric dust collectors and substitutes for ozone-destructive chlorofluorocarbons (CFC).

In the second phase (1995-97), research and development will center on combating sewage and industrial waste water, and on promoting desulfurization technology. In the last phase (1998-2001), development of higher technologies of incinerating waste and eliminating carbon dioxide will be given top priority.

The Ministry said 43.9 billion won would be poured into the development of CFC substitutes.

Factories to develop and manufacture the substitutes would be built by the end of 1994 and plants for more advanced substitutes would come into existence by 1997, it said. Mass production of the "third-generation" CFC substitutes would be possible by 2001.

Locally produced materials would meet 50 percent of the nation's demand for CFC substitutes and the rate would soar to 80 percent in 1998 and over 90 percent after 2001, it said.

Korea lagged behind the industrialized countries by 20-30 years in terms of environmental technology, the Ministry said, investing only 0.14 percent of its gross national product in the environment as of 1985, when the rate was 1.69 percent in Sweden, 1.03 percent in Switzerland, 0.74 percent in Britain, 0.57 percent in the United States, and 0.34 percent in Japan.

Korea's investment in the sector is growing, however, and it topped 0.3 percent of GNP [gross national product] in 1991.



**Business Leaders Adopt Environment Declaration**  
*SK2905062192 Seoul YONHAP in English 0247 GMT  
29 May 92*

[Text] Seoul, May 29 (YONHAP)—Five major economic organizations adopted a "businessmen's environment declaration" Friday, promising to play their part in protecting the environment.

The Federation of Korean Industries, Korea Chamber of Commerce and Industry, Korea Trade Promotion Corp., Korea Employers' Federation and Korea Federation of Small Businesses adopted the seven-point declaration in a ceremony attended by Environment Minister Kwon E-hyock and some 120 other guests.

Businessmen had neglected the environment in the process of emphasizing economic development and facility expansion, the declaration said. From now on, it said, they would create a new industrial trend of harmonizing man and nature.

The declaration includes an action plan to change corporate perceptions of environmental issues, improve their environmental management, and require full environmental impact studies of projects for business expansion.

The action plan includes increased environmental protection facilities and technology development.

**Manufacturers Fear Impact of UN Environmental Meeting**

*SK0406093592 Seoul YONHAP in English 0836 GMT  
4 Jun 92*

[Text] Seoul, June 4 (YONHAP)—The manufacturing industry is growing edgy over the direction of the environmental debate at home and abroad, fearing it will lead to supply shortages and cost increases.

Shock waves are expected to hit the electronics, car, steel, paper and other sectors following the UN Conference on Environment and Development in Rio de Janeiro, Brazil.

The automobile and electronics industries, faced with quotas on chlorofluorocarbons (CFC) beginning this year, will have to import the bulk of their CFC-substitutes, priced some 30 times higher than the ozone-destroying chemicals.

The government has set this year's quota for the two industries at 22,012 tons, or 70 percent of projected demand.

The shortage, which will hit automobiles, refrigerators and other mass-traded items hardest, is expected to jeopardize sales from late this year, after the quotas are filled.

Use of CFC-substitutes will also require changes in production systems, raising costs further, officials said.

Heater manufacturers may have to replace their facilities to reduce emission of dioxides in observance of the

convention on climate change. They even face suspension of production if the convention agrees to ban fossil-fueled heaters.

A considerable shock is also expected in the production of steel, paper and storage cells if the government joins the Basel Convention, which regulates international movement of hazardous wastes.

Joining may also jeopardize imports of scrap iron amounting to 3.3 million tons each year and imports of scrap paper, which meet 40 percent of domestic demand for paper materials.

Conclusion of a biodiversity convention and forest principles will strengthen restrictions on ocean fishing and timber imports, officials said.

**Government To Invest 100 Billion Won for Environmental Technologies**

*SK0406104592 Seoul YONHAP in English 0948 GMT  
4 Jun 92*

[Text] Seoul, June 4 (YONHAP)—The government will invest 100 billion won in the development of 120 crucial environmental technologies from this year through the end of 1997, the Trade and Industry Ministry said Thursday.

The ministry said another 11.4 billion won would be spent on developing substitutes for ozone destroying chlorofluorocarbons (CFC) by the end of 1994.

According to the ministry's industrial policy, which is aimed at reflecting changing environmental demands, the government will endeavor to minimize the effects of earth-saving restrictions on Korean firms.

In answer to the Montreal Protocol, which restricts the use of CFCs, freon and other harmful materials, the government set ceilings on permissible amounts by kind last January.

In preparation for the international convention on climate change, which proposes protection from carbon dioxide, methane and nitric oxide resulting from heavy petroleum and coal use, the government will form a task force this month to survey energy consumption and will implement a package of measures for technological development and investment in the second half of this year.

The convention aims at a 10-percent to 20-percent reduction in these pollutants by 2005.

With the effectuation May 5 of the Basel convention restricting the use and trade of harmful heavy metals, the trade and industry and environment ministries will jointly work out the necessary regulations. Joining the convention will be decided after the government studies the attitudes of the United States and Japan.

Industrial firms will have tax favors if they build waste disposal facilities or recycling factories. A law on the promotion of the recycling industry will be enacted this year.

Recycling committees will be established at 10 industrial organizations that specialize in such major industrial products as plastics, electronic household appliances, steel, automobiles and semiconductors.

For industrial firms that cannot operate waste disposal plants individually, the central government, in cooperation with local administrations, will help them gather in one area and jointly operate such facilities. Financial support will be given to those firms.

Waste disposal plants will be mandatory for all new large-sized industrial complexes, and existing complexes will be encouraged to have such facilities.

#### **DLP To Set Up National Assembly Committee on Environment**

*SK0506110992 Seoul YONHAP in English 0648 GMT 5 Jun 92*

[Text] Seoul, June 5 (YONHAP)—The ruling Democratic Liberal Party (DLP) worked out plans Friday to reinforce environment-related government organizations and set up a National Assembly Committee on the Environment.

The DLP will refine its plans in policy consultations and then Kim Yong-sam, executive chairman and presidential candidate of the ruling party, will announce them early next week.

One proposal is for the vice-ministerial level counter-measure body for international environmental conventions to be upgraded to a ministerial level state environment committee.

Another is to amend the 7th five-year socio-economic development plan in a way that better fits changing trend of international environment policies.

The National Assembly Environment Committee would tackle environmental problems and intensify the assembly's global diplomatic activities.

The plans include the legislation of laws to support the establishment of industrial waste disposal facilities to limit enterprises to production activities.

Water resources will be managed systematically and effectively for their preservation regardless of administrative units, under the DLP's plans.

The ruling party decided to expand the supply of liquefied natural gas in major cities by 1996 to reduce air pollution.

## **TAIWAN**

### **Number of Ocean Driftnet Boats To Decrease**

*OW0206092592 Taipei CNA in English 0809 GMT 2 Jun 92*

[Text] Taipei, June 2 (CNA)—The number of Taiwan's driftnet fishing boats operating in the North Pacific and the Indian Ocean will be reduced by 50 percent for the second half of the year, the Council of Agriculture (COA) reported Monday.

The decision is in line with a United Nations ban on driftnetting on the open seas starting next year.

COA said that during the second half of last year, 110 Taiwan driftnet fishing boats operated in the North Pacific and 107 in the Indian Ocean. The number will be cut to 55 and 54 respectively by year's end.

### **IDB To Help Improve Petrochemical Industry Pollution Control**

*OW0406084592 Taipei CNA in English 0754 GMT 4 Jun 92*

[Text] Taipei, June 4 (CNA)—The Industrial Development Bureau (IDB) has worked out a series of measures to help the petrochemical industry improve pollution controls and industrial safety.

The new measures will be submitted to the Ministry of Economic Affairs for approval before the end of this month, an IDB official said yesterday.

Under the new measures, petrochemical companies will be given tax incentives for introducing new pollution control equipment. The IDB's industrial pollution control service group will also help companies in the petrochemical industrial zones in Linyuan, Jenta, and Toufen improve their pollution control methods.

Moreover, the IDB will help petrochemical companies make good use of the new technologies developed by the industrial technology research institute for improving pollution controls and industrial safety, the official said.

## **VIETNAM**

### **Continued Deforestation in Quang Ninh Noted**

*92WN0512A Hanoi NHAN DAN in Vietnamese 9 Apr 92 p 2*

[Article by Son Cong Khoi: "Forests in Quang Ninh Are Still Being Destroyed Extensively!"]

[Text] Over the past two years, underground coal mines have refused to buy wood or have bought only a very small amount of it, compared with the previous years. Yet, forests in Quang Ninh have continued to be destroyed at a very fast pace. According to the statistics compiled by responsible services, nearly 13,000 hectares of Quang

Ninh's forests were destroyed between 1989 and 1991 (including more than 10,000 hectares felled for timber, nearly 2,000 hectares cut down in slash-and-burn operations, and over 10,000 hectares lost in forest fires, which claimed 713 hectares in 1991 alone....) [figures as published] What was the cause of such forest destruction?

The law has determined that to exploit and trade in forest products, one must comply with all the legal formalities. But it can be said that in the recent past these formalities were not scrupulously observed and the responsible services did not do a good job of advising the administration on giving centralized and unified guidance in granting licenses for forest product exploitation and trading. Looking into a few cases, we can see that licenses have been issued in a very arbitrary fashion, not consistently in strict accordance with the law. The opening of lumberyard must be approved by the Ministry of Forestry or delegated organs.... However, last year, the people's committees of various districts and towns, the Agricultural-Forestry-Fishery Service, and the Union of Forestry Enterprises of Quang Ninh Province still issued more than 10 licenses for logging in another 1,800 hectares of forest (more than thrice the area authorized by the Ministry) which yielded nearly 38,000 cubic meters of timber (in round log equivalent). In defiance of the law, the People's Committee of Cam Pha District issued six licenses authorizing people to exploit even the Ba Mun and Ban Sen forest reserves. Meanwhile, the People's Committee of Hoanh Bo District granted people permits to fell 178 hectares of watershed forests in the Yen Lap Lake area. As a result, in 1991 Cam Pha and Hoanh Bo Districts exploited a forested area exceeding the authorized limit by 50 percent, or the equivalent of about 20,000 cubic meters of timber (in round log equivalent), thereby seriously depleting their forest assets. In 1991, production of commercial timber and mine-shaft poles fell short of target, but log output exceeded the authorized limit by 250 percent (equivalent to 23,346 cubic meters of round logs). As a result of this indiscriminate licensing, some localities have even felled trees in watershed virgin forests and forest reserves. Further evidence of forest destruction is the fact that, last year, the Trade and Tourism Service of Quang Ninh granted an export quota of 5,000 cubic meters of timber to all localities where forest resources had been exhausted and which had no plan for logging.... After receiving their quota, some localities had sold part of it to other units in exchange for a "commission," thus saving themselves the trouble of starting their businesses from scratch, and so forth. Meanwhile, some localities that still had some timber reserves had felled trees and "surreptitiously" sold logs to other provinces. It has been reported that in all Quang Ninh Province, up to approximately 10,000 cubic meters of logs were cut down last year for export.... Because of the lack of strictness in the granting of logging licenses, in 1991 Quang Ninh exceeded the initial timber output limit authorized by the responsible ministry by about 43,000 cubic meters (in round log equivalent). Generally speaking, enforcement of forest product trading formalities has been lax.

Scores and even hundreds of people have traded in or stocked up on timber without proper licenses. Inspecting 33 timber trading households in Ha Trung and Cao Xanh Wards in the last week of February, the Hon Gai City Forestry Office found that 20 of them had violated forest protection laws. Taking punitive action against the violators, the office eventually recovered millions of dong for the state budget. Mr. Pham Cong Tien, a resident of Haiphong, came to Vu Oai Village to trade in timber, and still succeeded in obtaining from the deputy chief of Hoanh Bo District's Forestry Officer a license permitting him to ship timber to Cao Xanh Ward in Hon Gai City for sale. How he managed to do that remains unclear....

The People's Forestry Service [PFS], which constitute the principal force in forest protection, have committed many offenses themselves. For example, in a trial of forest protection law violations in Ba Che District, most of the suspects in the dock were local PFS cadres and personnel. A member of the Standing Committee of Binh Lieu District's Party Committee told us the following story: As a key cadre of Dong Tam Village related, Brother Xuan, a district PFS official, discovered that local people were cutting down trees and taking them to the other side of the border for sale. But, instead of fining the offenders, he chose to collect 1,000 to 2,000 dong for each log, then looked the other way.... More serious still, Brothers Tran Phu C Khin and Dong Xuan Hoa, both PFS cadres of Hoanh Bo District, even colluded with timber traders, took bribes from them, and allowed offenders to escape from detention.

The entire PFS in Quang Ninh Province comprise more than 300 cadres and personnel, but about 70 percent of them still lack a basic knowledge of forest management and protection. This is the root cause of the weakness of the local PFS, which are striving to overcome this state of affairs to improve themselves.

In 1991, according to the statistics compiled by the local PFS, there were 1,231 violations of forest protection laws in all Quang Ninh Province, triple the number of violations in 1990. Despite this fast increase in infractions, there has been a lack of firmness in dealing with the offenders and the punishments have not been commensurate with the losses caused by the offenses. A leading cadre of the bloc of Quang Ninh's internal affairs services answered this question by citing some concrete examples. In his opinion, we have loosened up the laws on forest management and protection during the past few years. In 1990 and 1991, almost 1,500 criminal cases were tried in the entire province. Regrettably, during the same period only four cases of forest law violations involving 15 suspects were brought to court. In 1991 in particular, of the 800 criminal cases with more than 1,000 suspects tried, only one with a single suspect was connected with forest law violations. He affirmed to us that the main reason for other cases not having been brought to trial was the lack of evidence, nonacceptance

by the court of related dossiers.... Bearing the principal responsibility for investigation in such cases is the PFS, but they seem trying to shun it; maybe because their professional capabilities are still poor, or their sense of responsibility for their work is not yet high enough. He revealed that, in the PFS, there have been cases in which officials had turn their back on the law, and that negativism has been inevitable in this service.... This is the root cause that has directly prevented the cases of forest protection law violations from being brought to trial.

There also are not a few people who still remain above the law. Many still recall the case of some coal mines in Uong Bi City area which bought mine-shaft poles in contravention of the established principles and avoided paying hundreds of millions of dong in forest maintenance tax. Hoanh Bo State Forest caused a loss of nearly 200 million dong when it violated technical procedures in opening a lumberyard. As these cases had been fully documented by responsible agencies, one would assume that if the offenders were not tried for criminal charges, they must, at the very least, be made to pay compensations equivalent to the losses they caused. But nothing of the sort happened, or the offenders only had to pay a tiny sum as a "token" and then, as time went by, blamed everything on objective causes.... That was the past. But, at present, there still are fairly serious violations of the established principles and laws in the granting of licenses for forest product exploitation. At many important conferences in the province, numerous delegates wondered whether the judiciary and executive agencies would sternly and judiciously deal with violations from now on to set a good example and to help deter and check forest destruction. Only in this way can forest protection laws

and discipline be strictly enforced. Quang Ninh still has nearly 400,000 hectares of forest land, which accounts for almost 70 percent of the province's natural land. Can this large forest area remain an advantage, an important resource for socioeconomic development if the forests in Quang Ninh continue to be destroyed at the current pace?

#### **Council of Ministers Bans Raw Timber Exports**

*BK2305171092 Hanoi Voice of Vietnam Network  
in Vietnamese 2300 GMT 22 May 92*

[Text] Implementing Directive 92 of the chairman of the Council of Ministers, on 18 May the Forestry Ministry, the State Planning Commission, and the Ministry of Trade and Tourism jointly issued Circular No. 09 stipulating the types of timber and rattan products that may be exported.

The circular stipulates that henceforth only finished wood and forest products can be exported. The raw materials used include those natural materials from planted forests as indicated in the approved plans. Exports will be accounted for in accordance with the designations of each stipulated product in terms of amounts, quality, type of timber, packing procedures, and sketches of products attached thereto.

The number of exports is grouped into four categories, with 34 types of products whose designs are determined depending on each different category, including the norms for exporting finely processed timber and rattan products.

## BULGARIA

### Electricity Official Defends Nuclear Power

AU0206163792 Sofia 24 CHASA in Bulgarian 22 May 92 p 6

[Interview with Nikita Shervashidze, chief of the Supervisory Council of the National Electricity Council, by Dimitur Genchev; place and date not given: "If You Show Me a Cheaper and More Suitable Energy Source for Bulgaria Than Nuclear Power, I Will Resign!"]

[Text] [Shervashidze] Time has proved my assumption that the millions of victims from Chernobyl about which such a fuss was made simply do not exist. However, there are some Russians who want to gain money, and they are throwing bombastic figures in the face of the world.

[Genchev] *Mr. Shervashidze, you are a member of the Bulgarian Nuclear Association, so you are clearly open to accusations of bias and distortion of the truth.*

[Shervashidze] There is no bias here, only facts, and this year's ones at that. International experts summarized the results of the Chernobyl disaster on the instructions of the European Policy Center in Brussels. These results show that 444 people were working in the nuclear plant at the time of the disaster, including 176 staff members. Of this number, 32 have died, and 144 have received serious radiation injuries. An additional 92 have symptoms of heavy radiation. During the first five months following the disaster, radioactivity levels higher than the permitted dose of 25 roentgens were established in 1,874 persons, while 75,000 persons received doses ranging from one to four roentgens. In addition, 5 million hectares of land are contaminated, of which 3 million hectares comprise farm land, and 2 million—forests. That is all.

However, it can definitely be said that there is no increase in the incidence of cancer in the affected regions. It turns out that the consequences of Chernobyl, which was an incredible disaster, are far from being as catastrophic as some people represent them.

[Genchev] *There has been talk in Bulgaria of the appearance of mutants, two-headed calves, spontaneous abortions, and so on. Some such cases were also documented.*

[Shervashidze] Indeed there were such stories, but it is absurd to connect the diseases and anomalies in Bulgaria with Chernobyl. The Russians on the spot cannot make any such correlations. I can believe that if radiation does exert an influence, then it is not Chernobyl radiation, but radiation like that from the capsules that were scattered near Bukhovo and other similar cases. Authoritative international commissions that have been investigating the aftermath of Chernobyl for years with the aid of the most advanced apparatus cannot prove any connection between the disaster and certain diseases.

[Genchev] *Why do you defend the nuclear energy industry so heatedly? You are not a nuclear specialist, as far as I know.*

[Shervashidze] I have said on a number of occasions that I am not a nuclear specialist, but simply want to understand the truth concerning the nuclear energy industry. However, the more conversant I become with this industry, the more I ascribe to the view that it is a necessary evil for Bulgaria. I have already stated that the moment I am convinced that a cheaper and safer energy source exists, I will immediately start working for it. If any of the opponents of the nuclear energy industry manages to show me one, I am ready to admit that I am not suitable for the duties that I fulfill.

[Genchev] *However, public opinion in Bulgaria will probably not be on your side.*

[Shervashidze] One of the attacks against communism was in this connection directed at the nuclear energy industry, but unfortunately this attack was made in the wrong direction. What is bad, however, is that public opinion was also pointed in the wrong direction, in my view. It is true that many errors were made, but nuclear energy means salvation for any state that is poor in natural resources. It is correct that communism has many sins—in aligning us only with one state, and in choosing the capacities, such as the 1,000-megawatt reactor units that are now giving us so many headaches. The problem is to avoid throwing the baby out with the bath water. It is simply essential to establish contact with the people and to explain the situation. High ethical standards are also needed in this direction. Anyone can say: I do not want a nuclear plant in my backyard! Svishtov can say this, so can Belene. However, where are we to get our energy from then?

[Genchev] *So it seems that, whether we want it to or not, it is our fate to develop our nuclear energy industry, at least in the near future. How do matters stand from the economic viewpoint?*

[Shervashidze] Nuclear power is cheaper than any other form of energy by 20 to 70 percent, depending on the country concerned. For example, it is about 30 percent cheaper than electricity produced from coal. The United States is the only country in the world where the opposite is true, that is, where energy from coal is cheaper than nuclear power. However, their coal has a very high calorific value and can be mined by open-cast methods. Of the different energy sources, gas is the most expensive, followed by petroleum, then coal, and finally nuclear power.

However, many of the developed states are bringing in quotas for energy produced from fuels because of the greenhouse effect and other ecological considerations. In England, for example, the quota is 20-25 percent, and anyone who wants to produce more has to pay high taxes.



[Genchev] *It is said that the Kozloduy Nuclear Power Plant is a source of sharp conflict between the Americans and Europeans. What is the reason for this?*

[Shervashidze] Yes, such a conflict does exist. We now represent an attractive piece of cake, because the market is being freed. At the moment the Russians, whether they want to or not, are simply not in a position to compete for influence in this region. The real confrontation in the energy industry now lies between the United States and Western Europe. It is odd that the Japanese have not intervened. Moreover, the competition is really very tough, because those who enter Bulgaria now know that they will be here for a long time, if not forever. It is simply that the Europeans are joining forces against the Americans. However, there are internal conflicts between these parties themselves, because if the EC, for example, gives us money, it has its own procedures, according to which we receive the money and make use of it. We have no influence over this, we can only say thanks!

[Genchev] *What lies ahead for us in the future?*

[Shervashidze] In principle there are only two real possibilities for new nuclear capacities: either to continue the construction of Belene with new reactors, or to build a seventh reactor unit at Kozloduy. Our government will have to make a decision by 1995-96 at the latest. I personally believe that about \$300 million will be enough to properly repair the four old reactors at Kozloduy.

It is sensible to invest \$300 million, because we cannot build another generating unit with this amount. For example, a 200-megawatt thermal generating unit with sulfur dioxide cleaning equipment costs about \$400 million. In other words, we will invest \$300 million in the old units at the nuclear power plant, but will obtain 1,760 megawatts, whereas in the other case we would have to pay \$400 million for 200 megawatts—the difference is clear.

#### **Romanian Government To Close Polluting Plant in Giurgiu**

*AU0506111692 Sofia BTA in English 1801 GMT 4 Jun 92*

[Text] Ruse, June 4 (BTA)—At a session of the Bulgarian-Romanian Coordinating Commission on the Environmental Problems in the Ruse-Giurgiu Region, held in the Danubian city of Ruse today, Mr. Flora Bold, deputy mayor of Giurgiu, broke the sensational news that the Romanian Government is 95 percent resolved to move the epichlorohydrin installations from Giurgiu. These installations have not been working for two months now and the Romanian Ministry of the Environment is firmly for their closing down. Mr. Bold, who is also chairman of the Romanian side of the commission, said that now there is no chlorine on the production stage of the works because it is no longer used. Thirty to forty tonnes of chlorine used to be stored there.

The other good news is that it has been decided for the epoxide resin installations at the Verachim Combined Works in Giurgiu to be transformed to produce soap, perfumes and shampoos. "Our problems are dropping off one by one," Mr. Flora bold said and added that the heavy machine building plant which is a "twin" of the Ruse Works on the other side of the Danube has also stopped operation.

The two sides exchanged lists of the enterprises and companies in Ruse and Giurgiu which are potential polluters of the environment and their programmes for concrete steps in environment protection as well as the schedules of the visits to be exchanged by experts and environment inspectors of the two countries. The commission will hold its next session on September 4, 1992.

### **CZECHOSLOVAKIA**

#### **Government To End Uranium Mining in North Bohemia**

*LD2105194692 Prague CSTK in English 1522 GMT 20 May 92*

[Text] Prague, May 20 (CSTK)—The Czech government today took note of a report on ending uranium mining in the area around Ceska Lipa, North Bohemia, and on cleaning up the mining site.

The government also took note of the fact that the Uranium industry requires financial assistance from the state to enable it to clean up the mining area. It also took note of a report on the impact of obtaining uranium in the Ceska Lipa area through chemical mining means.

It also agreed with the establishment of a transitional period for completing uranium mining in the area, which will last from this year until 1994. The Czech Ministry of Economic Policy and Development and the Ministry for the Environment are to take the necessary measures to put the transitional period into effect.

#### **Slovak Ecological Situation Termed 'Appalling'**

*LD2305172192 Bratislava Rozhlasova Stanica Slovensko Network in Slovak 1500 GMT 22 May 92*

[Text] The ecological situation in Slovakia is appalling, leading to an increase in illnesses caused by the failure of the immune system because of the impact of the harmful environment. This was noted in Bratislava today at a meeting of Czech and Slovak physicians-immunologists as well as environmentalists and sanitation service employees dealing with the impact of the environment on the human organism, above all on children.

Among the regions where air pollution is very strong the experts included for instance the Upper Nitra region, where there is arsenic pollution, and Ziar nad Hronom, where 40 percent of school children are anaemic. The Vranov-Strazske-Humenne region was described by

them as the death triangle because of the heavy air pollution by chemical pollutants from chemical plants there.

## HUNGARY

### Government Introduces Measures To Protect Ozone Layer

LD2105202992 Budapest MTI in English 0825 GMT  
21 May 92

[Text] Budapest, May 20 (MTI)—Like several other countries Hungary is to adopt further measures to safeguard the ozone layer.

From May 15, it will be forbidden to establish new technology or manufacturing units producing or using freons and halons that jeopardize the ozonosphere.

Use of these materials as power gas for sprayers and in manufacturing certain types of synthetic foams will be banned from January 1 next year.

Between January 1, 1997 and December 31, 1999, the ban will be extended to all areas except the washing of special electronic components, dry cleaning and medical sprayers until an appropriate alternative is found.

Freon and halon consumption in Hungary has dropped by 25 percent from 6,100 tonnes in 1986.

## POLAND

### Lead Poisoning in Industrial, Mining Belts Noted

92WE0452A Poznan WPROST in Polish  
No 14, 5 Apr 92 pp 59-60

[Article by Bartlomiej Lesniewski and Miranda Marciniak: "People of Lead"]

[Text] All indications are that the Poles want to poison themselves with lead, and the government realizes that there is no point in stopping them from this. In spite of the fact that no increase in the number of illnesses from the severe, clinical type of lead poisoning has been noted, a number of urban residents show signs of lead poisoning: a generally weakened condition, overexcitability, insomnia, depressive states and constipation. Lead, accumulating for years in the bones, the liver, spleen and brain, is one of the causes of mental disorders, aggression and excesses.

By nature, lead creates "belts of death." Dust, containing concentrations of the metal which are toxic to health, falls in close proximity to the source of the emission. This dust is very unlikely to travel any farther. For this reason, most of Poland is probably free of harmful lead, although the poisonous dust settles in locations where the concentrations of people are the highest: in major cities. The source of the lead dust is primarily car exhaust (in a year, eight kilograms of this metal settles

for every kilometer driven), as well as nonferrous metalworks and crude oil refineries. The overlapping of a "transportation source" and "industrial sources" is particularly dangerous. Such situations exist in Upper Silesia and in the environs of Legnica, Police, Walbrzych, Gdansk, Krakow and Plock.

According to Jerzy Grebecki, director of the Environmental Toxicology Department in Katowice's Sanepid, "the fairly liberal world standard for the allowable blood level of lead is 20 mg per 100 cubic centimeters." We have conducted random studies of groups of six- and seven-year old children in several regions of our voivodship. In some of these groups, we have recorded excessive levels in as many as 80 percent of the children.

This refers primarily to the residents of housing complexes situated near the four largest nonferrous metalworks: Boleslaw in Bukowina near Olkusz, Szopienice in Katowice and the Miasteczko Slaskie Zinc Works and the Mining-Metallurgy Plant in Piekary Slaskie. In the Katowice Voivodship, the average level of lead in the blood of children is two times higher than in other regions of the country, and in most cities the lead level approaches a borderline value.

The highest concentration of level has been noted in children from Miasteczko Slaskie.

The consumption of lead-poisoned food over the long term may also have an impact on this. Residents of the village of Dabrowka Wielka, which is located near Piekary Slaskie, raise cabbage, which is particularly susceptible to the accumulation of this metal. Researchers at the Environmental Protection Institute in Katowice became interested in this problem, but the village residents tried to hinder the research, and the advice to change the cultivation structure and produce plants which are less susceptible to the accumulation of the metal was ignored.

The allowable norm of the lead content in soil is from 50 to 100 mg per kg. Meanwhile, in Krakow and in Upper Silesia, the lead content was more than double the norm. A similar situation exists in Plock, where the gardens of refinery employees are located in a contaminated area, directly contiguous to the plant.

"I will not give up my garden plot," says one of the plot owners. "I have been eating the fruit and vegetables I grow here for years and nothing has happened to me."

Employees from the Agricultural Academy in Poznan (sic!) agree. Their garden plots are located near the busy Niestachowska Route. The dust which settles on the fruit and vegetables does not scare anyone, in spite of the fact that studies conducted at the Agricultural Academy in Krakow prove that a 150-meter belt along busy highways is contaminated with lead to a degree that precludes any garden cultivation.

Since even the soil experts from agricultural schools are not disturbed about the lead, the government is unconcerned as well. No one is forced to give up cultivating garden plots and fields which are particularly endangered by the effects of the contaminating dust.

Nor is there any action being taken to replace lead water pipes. In the opinion of historians, the reason for the ill state of health of the residents of ancient Rome was the use of lead aqueducts.

In Poland, a significant portion of water line connections in the old parts of cities is made of lead.

In the opinion of Professor Kazimierz Marek from the Labor Medicine Institute Clinic in Sosnowiec, this has been the cause of the poisoning of several families, primarily from the Opole region. Lead pipes are a national problem: in Wroclaw, the residents of Starowka and the Center City are affected; in Poznan, the residents of Old Town and Jezyce; and in Gdansk, the residents of Wrzeszcz and Jaskowa Dolina.

The general use of small water heaters (so-called "junkers") to boil water rapidly is causing many illnesses. The old types of such equipment are equipped with lead flow pipes. But this is unimportant to many residents.

The noxiousness of lead has been proved in laboratories. The majority of the signs of lead poisoning are similar to reactions to the other effects of civilization. The Poles readily suspect the causes of a headache or stomachache to be stress or low air pressure. Lead is the last thing to come to their minds.

Distance from road shoulder (in meters)	Lead content in plants (mg per kg)		
	in Oltarzew (unwashed leaves)	in Krakow (unwashed leaves)	in Krakow (washed leaves)
10	24.8	21.4	14.8
50	11.8	12.8	7.3
100	4.4	5.5	4.1
150	4.1	4.8	2.8

The allowable concentration of lead in plants is 2 mg per kilogram. Tests on cauliflower leaves gathered in Oltarzew along the Warsaw-Poznan road and lettuce leaves cultivated along the Krakow exit road in the Katowice direction were used to test the concentration of this element in gardens planted in direct proximity to busy highways. The tests ascertained that the norm was exceeded significantly.

#### Conference Discusses Ecological Problems of Privatization

LD2005224692 Warsaw PAP in English 2155 GMT  
19 May 92

[Text] Warsaw, May 19—A three-day international conference started in Warsaw on Tuesday to discuss the

system of responsibility for the condition of environment, ecological problems connected with privatization and possibilities of using experience of the OECD [Organization for Economic Cooperation and Development] countries in this respect in central and Eastern Europe.

The conference was organized by Organization for Economic Cooperation and Development (OECD), the World Bank and the European Bank for Reconstruction and Development. It is attended by representatives of ministries of privatization from Eastern Europe and international organizations as well as of Western businesses and industry engaged in the privatization processes in Poland and other countries of this region.

The privatization processes initiated in Poland three years ago have encountered considerable obstacles, one of them being Poland's reputation as a most seriously polluted country in Europe. Also, no information about ecological condition of privatized enterprises is available in Poland.

Foreign investors are most discouraged by the lack of a clear division of responsibility for an environmental damage caused by industrial enterprises, Linda Powers of the U.S. opined.

#### Environmental Protection Bureau Opens in Katowice

LD2905210792 Warsaw PAP in English 1501 GMT  
29 May 92

[Text] Katowice, May 29—The Upper Silesian Foundation opened its regional bureau for the implementation of ecological projects in Katowice on Friday. The bureau, with the assistance of the European Communities, will monitor the introduction of environmental protection programmes financed from abroad.

The key task of the newly set up bureau will be the implementation of the Phare-2 regional programme prepared for Upper Silesia, one of Poland's most severely polluted regions.

The project, which received 15.5 million ECU [European Currency Unit] in financial assistance, embraces municipal refuse management, limitation of the so called low emission through the substitution of local boiler houses for central heat engineering and gasification. It will also deal with water-sewage treatment and activities leading to the elimination of food production in strongly polluted areas.

Alexander H. Dijckmeester, representative of the commission of the European Communities to Poland, said that foreign financial aid earmarked for ecological projects in Upper Silesia was increased last year from 25 to about 40 million dollars.

The EC representatives also envisaged the signing of an agreement on further financial support for activities aimed at the protection of natural environment in Poland.

## BARBADOS

### Labor Minister Announces Environmental Program

*FL2605234792 Bridgetown CANA in English  
2130 GMT 26 May 92*

[Text] Bridgetown, Barbados, May 26, CANA—Barbados on Tuesday gave details of its actions and plans to safeguard the environment. It happened at the opening here of a Caribbean Community task force in a build-up to the Earth Summit in Brazil next month.

Labour Minister Carl Clarke said the government was committed to a wide-ranging environmental protection programme that included park creation, waste management, and education of citizens.

"The government is...committed to the establishment of the East Coast National Park, as one means of ensuring the preservation of our natural and cultural assets," he said. The government, he reported, would continue to place emphasis "on coastal conservation and protection. We will also continue to place importance on instituting proper management of liquid and solid waste. Government will, to this end, implement a comprehensive solid waste management programme," he said.

Dr. Clarke told the gathering "oil spill contingency planning, mitigation of both natural and man-made disasters, urban renewal, and the general enhancement of the environment" were areas to be tackled by the government.

"The work of the National Conservation Commission will be intensified subject to funding being available to ensure the beautification programme is extended to the entire country," he reported. The government was aiming for an improvement in "the general level of public awareness of all sectors of the society, in particular children and the productive sectors, about the significance of the environment," he said. "And so, we propose to accord the highest priority to environmental education and public awareness programmes."

## BRAZIL

### President Collor Launches New Ecological Package

*PY2105124292 Rio de Janeiro Rede Globo Television  
in Portuguese 2300 GMT 20 May 92*

[Text] Brazil now has another national park, three new areas of environment protection, and five new reserves. These measures are part of an ecological package launched today by President Fernando Collor.

The Brazilian northeast will have four new reserves where more than 1,000 families live off the babassu palms that grow in the region. They are the Quilombo do Freshal reserve in the municipality of Mirinzal in Maranhao State;

the Mata Grande and Ciriaco reserves in Imperatriz, Maranhao State; and the Extremo Norte reserve of Augustopolis in Tocantins State. The Pirajuba marine reserve is also being created in Florianopolis, Santa Catarina State.

These three new areas of environmental protection will preserve what is left of the Atlantic Forest. They include the Petropolis mountainous region, the Ibirapuita region in the municipality of Alegrete in Rio Grande do Sul, and the Anhatomirim region in the municipality of Governor Celso Ramos in Santa Catarina. The Serra Geral National Park is also being created between Rio Grande do Sul and Santa Catarina.

The package establishes that crimes like dumping thousands of liters of petroleum into the sea will be treated as an environmental crime and will be punished with extremely heavy fines, but the great news for the environment is the aid that forest controllers will receive.

Forest controllers often fail to see what is happening in the forests, but satellites see everything. In pictures like this, which IBAMA [Brazilian Institute for Environmental Affairs and Renewable Natural Resources] will receive every 15 days, the satellite shows that within this green area there is a pink area, a deforested area. If the IBAMA confirms that this deforestation is illegal, it will use a map like to find the exact location of the devastated area. A field engineer will thus impose fines immediately, with no waste of time.

### World's Largest Garbage-Processing Plant Dedicated in Rio

*PY2805233692 Brasilia Voz do Brasil Network  
in Portuguese 2200 GMT 27 May 92*

[Report by Cristiane Ribeiro in Rio de Janeiro]

[Text] The world's largest garbage-recycling and compost heap-producing plant was put into operation in Rio de Janeiro today. Built with French technology, the Caju Plant will process 50 percent of the 1,120 tonnes of garbage collected daily in Rio de Janeiro, which will be transformed into 600 tonnes of organic compost called Fertilube. This product will be sold by the State Supplies Center, Inc. and Pesagro [not further identified] for \$3 per bulk tonne [tonelada a granel], which totals nearly 9,000 cruzeiros at today's rate.

The plant also will produce up to 150 tonnes of recyclable material per day such as plastic, paper, cardboard paper, glass, and ferrous and nonferrous metals that will be sold to industrial companies.

The Caju Plant's process of accelerated digestion is the most modern and sanitariously safest process in the world. The plant's cost totalled \$23 million, which was supplied by the Rio de Janeiro Mayorality.

The plant will process garbage collected in downtown Rio de Janeiro, and in the districts of Gamboa, Saude,

Santo Cristo, Rio Comprido, Catumbi, Santa Teresa, Tijuca, Andaraí, Grajaú, Vila Isabel, and São Cristóvão.

Ivan Lagrota, president of Comlurb [Garbage Disposal Company—Companhia de Limpeza Urbana], has reported that three more garbage-processing plants will be built in Jacarepagua, Santa Cruz, and the Missoes Turnpike in an attempt to solve the problem of what to do with garbage collected daily in the town and to stop damaging the environment by dumping home garbage in sanitary landfills.

### Government Defines Position for UNCED

PY2705125892 *Brasília Radio Nacional da Amazonia Network in Portuguese 1000 GMT 27 May 92*

[Text] The government has defined the position that Brazil will endorse at the UN Conference on Environment and Development [UNCED].

The 49-page document is divided in seven topics: Protection of the Atmosphere, Biologic Diversity, Declaration on the Principles of Forestry, Management of Inadequate Water Systems and the Struggle Against Desertification and Drought, Toxic and Dangerous Residues, Protection of the Quality and Supply of Water Resources, and Sustainable Development of Settlements.

The document emphasizes that biotechnology must be designed to serve the evolution of mankind. The document recommends that the objective of biotechnology should include increased agricultural and livestock production, an improvement in health conditions and environmental protection, and an increase in the productivity and quality of industrial processes.

The document also proposes focusing on the pharmaceutical, food, and energy-production industries. At the UNCED, Brazil will also endorse a reduction in the production and international transportation of dangerous toxic residues.

### First Foreign Debt Swap for Environmental Projects Approved

PY2905164092 *Brasília Radio Nacional da Amazonia Network in Portuguese 1000 GMT 29 May 92*

[Report by Alana Gandara from Rio de Janeiro]

[Text] The first operation to swap Brazilian foreign debt for environmental projects has just been approved for an initial amount of \$150,000.

According to the debt swap program, which was established by a decree last year and by Central Bank Resolution No. 1840, the American Express Foundation, along with the Pro-Nature Foundation [Fundação Pro-Natureza] and the U.S. organization Nature Conservancy, agreed to swap Brazilian foreign debt for ecological protection.

The operation will guarantee the maintenance and management of Grande Sertão Veredas National Park in Minas Gerais State for a 20-year period.

This is the first time part of Brazil's debt has been swapped for an environmental project. The operation was expedited in order to have the foundation's donation coincide with the [UN Conference on Environment and Development] conference in Rio de Janeiro.

The swap received the support of President Fernando Collor and the Central Bank president.

### Minister Criticizes Nairobi Biodiversity Convention

PY0306160492 *São Paulo O ESTADO DE SÃO PAULO in Portuguese 2 Jun 92 Environment Section P 1*

[By Martha San Juan Franca]

[Text] Rio de Janeiro—Education Minister and Environment Secretary José Goldemberg yesterday—after the Science and Culture Forum opening ceremony, one of the events that will run parallel to the UN Conference on Environment and Development (Rio-92)—has said that the Convention on Biodiversity that was signed in Nairobi two weeks ago was not negotiated well. Goldemberg said that the document that will attempt to protect this planet's animals, plants, and microorganisms that was signed by 90 countries, does not include the most interested parties. He said: "An international convention that is not signed by the United States, France, and Japan—countries that have the resources and consume the products that affect biodiversity—is useless."

Goldemberg added that the decisions at Nairobi were largely made by small countries which adopted a rhetorical position of unrestricted protection of their resources. "Brazil should not encourage rhetorical speeches by countries that do not effectively control the world," the minister said, referring to the U.S. Government decision not to ratify the Convention at the Rio-92 conference because the document does not protect patents on new products and technologies transferred to developing countries.

UNESCO Environment Assistant Director Giesbert Glaser said he was present during five of the seven meetings where the document on the Convention on Biodiversity was drafted. Glaser said the issue was complex and needs additional technical analysis but "it will not be the end of the world if some countries do not sign the agreement." Physician Enio Candotti, president of the Brazilian Society for the Advancement of Science (SBPC)—one of the entities responsible for the Science and Culture Forum—criticized Goldemberg saying that "the minister's attitude is hasty."

In Candotti's opinion, the United States places its commercial interests before that of other countries which possess large biodiversity laboratories, without viewing



those laboratories from a historic perspective because the planet's ecological balance is much more important than short-term technological developments. "Poor countries can vote on agreements but cannot convert it into reality," the minister added.

Goldemberg considers the Convention on Climatic Changes that will be signed by all countries—including the United States—during the conference as a model. The document has been widely criticized for not including targets and deadlines restricting the consumption of the pollutants that are mainly responsible for the greenhouse effect. But the text of this document is more open and better considers everyone's interests, the minister said.

"Additional protocols will be signed when enough scientific evidence can be gathered on the issue, just as was done during discussions on the use of chlorofluorocarbons, which damage the ozone layer," Goldemberg said.

Goldemberg said he favors the inclusion of industrial property rights and patents protection—the two points on which rich and poor countries do not agree—in the Convention on Biodiversity. The Nairobi agreement proposes that developed countries give technical and scientific assistance to countries that lack technological development. The agreement, however, does not guarantee property rights for products obtained through biotechnology.

The minister has been harshly criticized by Candotti. The SBPC president also criticized the draft bill on pharmaceutical patents that Congress is currently discussing. Candotti said that the bill is a step backwards and will not help the national industry.

Jose Goldemberg said that the plan to preserve forests around the world, which U.S. President George Bush announced yesterday, seeks to compensate for the U.S. decision not to sign the Convention on Biodiversity. He said this during his speech opening the Science and Culture Forum at the Rio de Janeiro Federal University (UFRJ). According to the plan, the resources to support the preservation and adequate use of the world's forests will be increased by \$150 million.

Goldemberg said that the funds are not enough but the plan represents a step in the right direction. "If countries like England and Japan follow suit we can obtain considerable financing," Goldemberg said. The minister emphasized the financial needs involved in environmental preservation, mentioning that if the problem is to be properly faced, rich countries must transfer \$1.3 billion per year to developing countries until the end of the century.

The minister reiterated that he favored the decision to maintain the financing for sustainable development under the responsibility of the Global Environment Facility (GEF). The fund was created last year and is administered jointly by the World Bank and two other UN agencies: The Environment Program (Pnuma) and

the Development Program (Pnud). The GEF will support projects that reduce the consumption of the pollutants that cause the greenhouse effect, projects on biodiversity protection, and other projects included in Rio-92 ecological agenda. The GEF has close to \$1.3 billion for the financing of these projects.

### Country To Receive U.S. Funds for Forest Protection

PY0506031892 *Brasilia Radio Nacional da Amazonia Network in Portuguese 1000 GMT 4 Jun 92*

[Text] Foreign Minister Celso Lafer has reported that Brazil will be the first country to receive part of the \$150 million to be disbursed by U.S. President George Bush for the protection of rain forests.

Lafer said the effective decrease of deforestation in the Amazon region during the two years of the Collor administration appeals to the United States.

## ECUADOR

### Government Issues Report on Amazon Basin

PA2605234192 *Quito Voz de los Andes in Spanish 2300 GMT 25 May 92*

[Text] According to a special report published on 25 May, the Amazon Basin is a paradise in danger of extinction. Its slow and silent agony is a threat to man's survival, and as such it requires immediate attention.

The document entitled "The Amazon Basin Without Myths" was issued by the Ecuadoran Foreign Affairs Ministry. It states that, according to conservative figures, \$10 billion a year are required to protect and regenerate Amazon Basin ecosystems.

The report is part of the preparations for the upcoming Earth Summit in Brazil. It states that countries of the regions should be compensated at a fair price for use of the basin's considerable resources.

The document, which is aimed at discrediting false theories about the subregion, was drafted by the Inter-American Development Bank, the UN Development Program, and the Amazonian Cooperation Treaty.

The data presented in the report are dreadful. Six species disappear each hour as a result of the mass destruction of tropical forests. Five million hectares are destroyed each year. Entire tribes have been wiped out in the 1990's alone. The report says that the developed world is polluting the water and air, warming the atmosphere, depleting the ozone layer, and threatening to cause a nuclear holocaust, but it still has not found a solution for social injustice or chronic poverty.

According to the document, which was presented by Foreign Affairs Minister Diego Cordovez and Mario (Halfman), the United Nation's local representative, the salvation of the Amazon Basin cannot be a colossal

endeavor undertaken solely by indigenous inhabitants, but all mankind must make the effort its immediate crusade.

The Amazon Basin covers 7 percent of the world's surface. It has the largest tropical rain forest, is home to more than half of the flora and fauna species on earth, and holds 15 to 20 percent of the world's fresh water reserves. The Amazon River supplies 15.5 percent of the fresh water that pours into oceans through a labyrinth of tributaries, lakes, channels, and rivers.

In addition to demanding compensation for use of the Amazon Basin's resources, the report recommends establishing taxes on gas emissions that contribute to global warming and giving fair bonuses for the proper use of area assets and facilities.

The report also states that it is necessary to allocate new resources on an unprecedented scale to achieve the desired results in the basin. It also states that the countries of the region need specific aid, not a mere palliative, to solve their foreign debt problems. Delays in solving those problems increase the pressure on the Amazon's resources.

## GUATEMALA

### Deputy Reports First 'Debt-for-Nature Swap'

PA2805020292 Guatemala City EL GRAFICO  
in Spanish 27 May 92 p 4

[Text] Guatemala has carried out a debt-for-nature swap for the first time, Deputy Hector Luna Troccoli has told the Congress of the Republic. Luna Troccoli is the alternate representative of Congress before the Monetary Board.

The first debt-for-nature swap took place last week, according to a report disclosed on 26 May. Luna Troccoli explained that this transaction was conducted with Conservation International (CI), which is a nonprofit environmental organization.

The resources obtained from this transaction will be devoted to financing part of the Mayarema Project. The main objective of the project is to preserve the natural and cultural resources of the Maya biosphere region located in the Peten Department.

He stated that the CI will deliver \$1,333,962.00 worth of stabilization bonds [bonos de estabilizacion] to the Bank of Guatemala. In exchange, nominal certificates issued by the Bank of Guatemala for the same amount—supported by that bank's portfolio of Treasury bonds—will be delivered to the CI.

## REGIONAL AFFAIRS

### Study Details Dimensions of Arab Water Problems

92WN0520A Dubayy AL-BAYAN in Arabic  
29 Apr 92 p 15

[Article by 'Atif Saqr: "After Libyan Crisis, Water Most Serious Item Facing Arab Foreign Ministers; Despite All Sources, Arabs Will Experience Deficit of 260 Billion Cubic Meters; Israel's Ambitions Motivated by 170-Million Cubic Meter Deficit; Streamlining Inevitable for Egypt, Maghreb States; Sahara Position Difficult; 50 Arab Rivers, Yet Arab Consumption Below International Average"]

[Text] The water problem will be pivotal in the world's next conflict. Currently, it preoccupies the Middle East and dominates agendas of the most important future meetings and negotiations in the region. The Arab League Foreign Ministers Council meetings, which started yesterday, will discuss the water problem as one of the most important items on the agenda. Moreover, this problem is one of the most important new items presented to the council, so that it will develop a unified Arab position on it. Furthermore, the multilateral [peace] negotiations will discuss the problem as an element which could touch off wars in the region, which is experiencing a serious water shortage, which may amount to 260 billion cubic meters [ $m^3$ ] in the Arab world by the year 2030. Israel will also experience a shortage that is initially estimated at 170 million  $m^3$  by the year 1995, according to a study that hasn't taken into account the extensive recent flow of immigrants to Israel.

This study, made exclusively by AL-AHRAM Press Agency, deals with the Arab-Arab and Arab-international dimensions of the problem. The study relies on numerous documents, including documents of the Arab League Center for the Study of Arid Areas and Barren Lands.

Because of the gravity of the international dimension of the problem, we will first deal with this dimension, which encompasses the Arab water sources that are shared internationally, and the future importance of these sources.

#### From Taurus to Ethiopia

The leading internationally-shared surface water source is the Nile River. Egypt gets 55.5 billion  $m^3$  and Sudan gets 18.5 billion  $m^3$  from the river annually. But 'Isam Radi, Egypt's minister of water resources, has asserted that there are no problems with this river because there are international treaties that govern the distribution of its water. Nine states share the river water, including seven states in the river's upper basin. Sudan and Egypt represent the countries of the river's central basin and mouth. The Nile is not involved, and will not be involved, in the current negotiations with Israel.

The Tigris and the Euphrates rivers spring in the East Taurus Mountains of the Anatolia Plateau in Southeast Turkey and the Zagros Mountains in Iran. The Euphrates flows through Syria and Iraq and is 1,800 km long.

The Shebeli River springs in the Ethiopian plateau. Its discharge at the Somali border is estimated at nearly 1.8 billion  $m^3$  annually. The length of the river's main course is 1,650 km.

The Juba River also emanates in the Ethiopian Plateau, and its discharge at the Somali border amounts to 6.4 million  $m^3$  annually. The total length of the river's main course is 1,650 km.

#### 161 Billion $m^3$

Even though the position of internationally-shared water still needs to be clarified, and even though there are no precise figures on the distribution of waters shared with foreign countries, this study estimates the volume of surface water resources received from international Arab rivers (the Nile, the Tigris, the Euphrates, and the Senegal) at 161 billion  $m^3$  annually out of a total of surface water resources of 352 billion  $m^3$ , meaning that more than 50 percent of surface water resources come from outside the Arab borders (see Table 1).

#### Israel's Ambitions

The Arab countries rely not only on internationally-shared surface water sources, but also on common Arab underground sources, namely:

1. **The eastern Mediterranean watershed:** which includes the eastern Mediterranean plateaus, which are characterized by their high mountains. These plateaus consist of two mountain ranges separated by the basin that encompasses the Red Sea, al-Biqa' Plain, and al-Ghab Plain. Springs discharging enormous amounts of water gush out in the area, nurturing perennial rivers, such as al-'Asi, al-Litani, and the Jordan River (Israel covets the latter two strongly).

There are other minor rivers, such as Barada and al-A'waj in Syria. There is another watershed system in the west, where numerous coastal springs gush out in both Syria and Lebanon. The water of these springs is used for drinking, whereas river water is used for agriculture.

The main watershed and its sub-sections (the eastern and western Lebanese mountains, al-Haramun, 'Ajlun, and the plains located among them) are shared by Syria, Jordan, and the occupied Palestinian territories, including the territories on which Israel is established. The most significant characteristics of this watershed is the link between its surface and underground water. Surface flow often seeps into the soil and turns into underground water, resurfacing at times to replenish coastal and landlocked rivers, most important of which are al-'Asi, al-Litani, and the Jordan Rivers. This is a characteristic that Israel exploits to steal water from Jordan and Lebanon.

**2. The Hawran and Jabal al-'Arab watershed:** The Golan Heights and Jabal al-'Arab rains are this watershed's main source of replenishment. This water is discharged to the al-Yarmuk watershed, which replenishes water strata in the adjacent al-Hammad and al-Azraq watersheds. The volume of underground water discharge and replenishment is estimated at 265 million  $m^3$  annually. This demonstrates the danger of Israel's drawing of large quantities of water from the underground store in the occupied territories by drilling more wells, thus exhausting this store.

Israel tries to siphon Lebanese underground water resources, estimated at 8 billion  $m^3$ , to the occupied territories.

**3. The Upper al-Jazirah watershed:** where the water table extends in the shape of a narrow strip (10-30 km) along the Syrian-Turkish borders. Ra's al-'Ayn Spring gushes out in this strip. It is one of the world's biggest springs and discharges an average of 40  $m^3$  per second. This spring is the main tributary of al-Khabur River, which is a tributary of the Euphrates River. At the Syrian-Turkish borders, the flow is almost surface water flow.

#### Turkey, Syria

This vital water source will be exposed to depletion and pollution if the two countries sharing it utilize it in an irrational or disjointed manner. The principle of integration in this watershed must take into account the direct hydraulic link between secondary watersheds and surface and underground flow.

**4. The Nubian sandstone watershed:** which extends throughout the desert in North Africa. This watershed's main water layer stretches through Egypt, Libya, and Chad and covers an area of two million square km.

**5. The (Tawodni) watershed:** which extends across a large part of the desert between Mauritania and Mali. This watershed is replenished by rainwater. It is also linked to the Niger River.

Because the Arab internationally-shared water sources cannot be separated from the Arab water sources, considering that they constitute all the Arab water sources, we will also deal with the Arab water sources, namely:

#### Fifty Rivers

**1. Perennial rivers:** Imprints of the Arab world's arid environmental conditions are reflected in the absence of an interconnected and extensive network of rivers. There are nearly 50 perennial rivers in the Arab world, including tributaries of the Nile, Tigris, and Euphrates Rivers. Most of them flow down from the mountain chains overlooking the Mediterranean Sea and the Atlantic Ocean. Most of these rivers are no more than 100 kilometers long. The majority of the Maghreb rivers are an exception to this rule. At 1,200 km, (Deraa) River is the longest of these rivers.

These rivers get their water from rainfall which, in most cases, exceeds 1,000 mm in the mountain areas. Some rivers get their water from the discharge of springs gushing out in mountain foothills, as in the case of a large number of Lebanon's rivers, totaling 17 small rivers, of which the most important is al-Litani.

#### Regrettably, Deficient Data

**2. Seasonal streams:** Whereas the number of perennial rivers is limited, there are networks of streams estimated at the thousands. These seasonal streams run for short and interspersed periods ranging from hours to several days or months, or once every few years in the extremely arid regions.

Very regrettably, data available on the annual water capabilities of these streams is almost nonexistent in some areas. These streams have not been subjected to regular measurement, except under special and limited circumstances. However, streams kept under watch and observation in various parts of the Arab world indicate the potential for considerable water resources that could exceed tens of billions of  $m^3$ .

**3. Natural lakes:** There are a number of natural lakes in some Arab countries, some of which are connected with the sea, such as the series of lakes found in northern Egypt. There are also some landlocked lakes, such as Qarun Lake in Egypt and al-Tharthar Lake in Iraq.

#### 352 Billion $m^3$

In view of these available Arab and shared (Arab-international) sources, the question that poses itself is: How are the Arab countries classified, in light of the available water resources?

The study responds to this question by saying that the surface resources in the Arab homeland amount to 352 billion  $m^3$ , of which 161 billion represent the water discharged annually by the internationally-shared rivers after they cross into Arab territory. The discharge of perennial rivers is estimated at 296 billion  $m^3$ . The remaining surface water discharge, amounting to 56 billion  $m^3$ , comes from sources that aren't specifically defined. It could be explained by low estimates for the discharge of perennial rivers, especially in southern Sudan, and by water trapped in swamplands that cover a total area of 60,000 square km. Because of evaporation loss, the net annual water resources under the current conditions amount to no more than 250 billion  $m^3$ . These resources can be increased to 296 billion  $m^3$ , at most.

This amount is divided as follows (in billion  $m^3$ ): 111.8 for the Arab East bloc, including Palestine; 8.33 for the Arab Peninsula; 131 for the central region (Egypt, Somalia, Djibouti, and Sudan); and 44.6 for the Maghreb.

### Arabs Divided Into Three Water Categories

Depending on the available water resources and the population of each Arab state, the per capita share ranges from 78-3,500 m<sup>3</sup> annually. The Arab countries can be divided into three categories:

The first category enjoys a reasonable per capita share, i.e., more than 1,500 m<sup>3</sup> annually. It includes Syria, Iraq, Lebanon, Sudan, and Somalia. These countries can develop their sources in a manner that meets their population growth and keeps up with their economic development.

The second category includes countries where the per capita share ranges from 500-1,500 m<sup>3</sup> annually. Their sources are considered to be in critical condition and they need to exert greater efforts to develop these sources. These countries are Egypt, Oman, Tunisia, Algeria, Libya, and Morocco. They need to streamline the use of their water resources.

The third category includes the countries that experience water crises and where the per capita share doesn't exceed 500 m<sup>3</sup> annually. These countries need to focus their efforts on developing the available sources. They also need to take ceaseless steps to greatly enhance the efficiency of their water use and to devote attention to non-conventional sources. These countries are Jordan, the United Arab Emirates, Bahrain, Saudi Arabia, Qatar, Kuwait, Yemen, and Djibouti.

### A Look Beyond Year 2000

Having divided the Arab countries according to their water capabilities, this division reveals that the sources meet a part of the current water demand in the Arab world. This raises the need to determine water demand in the coming years.

The study has dealt with the Arab homeland's expected water demand in the 1990-2030 period, in order to develop a vision that helps to adopt policies to deal with the expected problems and crises and to prepare to face them well in advance of their appearance.

The study has relied on the expected population growth, endeavors to achieve food self-sufficiency, and on industrial growth to determine the Arab world's future water demand.

The study expects the Arab world's population to grow to 296 million people by the year 2000 and to 744 million by the year 2030, if the 1989 population growth rate in each Arab country is maintained.

If we compare the Arab world's population growth and water consumption, we will find the following:

**1. Water demand for drinking and domestic purposes:** The per capita water consumption for drinking and for domestic purposes varies from country to country. In Bahrain, it is close to 480 liters per capita daily, compared to 90 liters in Jordan and Oman. The international

rate for 1970 was 150 liters, and will rise to 400 liters by the year 2000, and to 500 liters by the year 2030.

In light of this, the Arab countries can be divided into three categories according to their consumption rate (see Table 2):

- Highest consumers (Saudi Arabia, Qatar, Kuwait, Bahrain, Oman, and the United Arab Emirates);
- Medium consumers (Syria, Jordan, Lebanon, Tunisia, Morocco, Iraq, and Libya);
- Lowest consumers (Sudan, Egypt, Mauritania, Algeria, Somalia, Djibouti, and Yemen).

The volume of water needed for drinking and domestic purposes in 1990 was estimated at nearly 8 billion m<sup>3</sup>, rising to 14 billion by the year 2000, and to 52 billion by the year 2030, meaning that the Arab per capita daily consumption will amount to 190 liters by the year 2030, which is nearly 310 liters below the international average.

**2. Water demand for industry:** The volume needed for the various industrial purposes in the year 2030 is estimated at nearly 33 billion m<sup>3</sup>, compared to 3.7 billion m<sup>3</sup> consumed in 1985.

**3. Water demand for agriculture:** The total water demand for agriculture is estimated to amount to 525 billion m<sup>3</sup> by the year 2030.

**4. Water demand for all purposes:** It is expected that the total water demand for all uses is expected to be estimated at nearly 362 billion m<sup>3</sup> annually by the year 2000. This volume will rise to nearly 610 billion m<sup>3</sup> annually if the current population growth rates in each Arab country persist, and to 514 billion if the population grows at moderate rates. These assumptions take into account the achievement of total self-sufficiency in food for the Arab homeland.

### Desalinated Water at 13 Billion m<sup>3</sup>

If we examine all the conclusions made by the initial assessment of the Arab homeland's regional water sources—an assessment based on the data available from the regional reports and studies completed within the context of a pan-Arab view of the available water sources and the sources being developed to meet current and future demand—we find that the Arab homeland's water supply and demand balance for the next four decades can be seen as follows:

1. The current estimate of available water resources shows that a maximum of 352 billion m<sup>3</sup> of water are available annually from renewable conventional sources, of which 160 billion m<sup>3</sup> of usable water come from sources outside the Arab homeland. The use of these sources depends on international water treaties. The conventional water resources exploited in 1985 amounted to nearly 140 billion m<sup>3</sup>, noting that the unconventional sources, embodied in desalination and re-use, are being developed constantly and that these



sources have produced nearly 13 billion m<sup>3</sup>, mostly in the Gulf states and Egypt. It has been noticed that it is possible to increase the development pace in the next four decades in a linear manner, beginning with 1985 (140 billion m<sup>3</sup>) and up to the year 2030, so that all the available sources will be developed to produce 352 billion m<sup>3</sup>, which is the volume of the available resources.

2. Based on current population growth, the water resources required by the entire Arab homeland for drinking and domestic purposes, for the expected industrial growth, and for implementing the food security policy will amount to 362 billion m<sup>3</sup> by the year 2000, and to 611 billion m<sup>3</sup> by the year 2030.

3. There will be a shortfall of nearly 145 billion m<sup>3</sup> in developing and utilizing the conventional sources by the year 2000. This shortfall will drop to 107 billion m<sup>3</sup> in the year 2010, to 54 billion m<sup>3</sup> in 2020, and to zero in the year 2030, when the Arab homeland is supposed to have reached a development and growth level that enables it to provide the requirements to exploit the available sources.

4. As for balancing the water requirements, the apparent water deficit, which is the difference between the available conventional resources and the water needs, will amount to nearly 10 billion m<sup>3</sup>, whereas the actual deficit will amount to 155 billion m<sup>3</sup>, growing to 260 billion m<sup>3</sup> by the year 2030, keeping in mind that the actual deficit is the difference between the water sources after they are developed and the actual water needs (see Table 3).

**Table 1: Internationally-Shared Surface Water Sources in Arab Homeland (in Billion m<sup>3</sup>)**

Region	Water Sources From Outside Borders	Total Water Sources for Region	Local Sources
Arab East: Syria, Iraq, Jordan, Lebanon, Palestine	81	126	45
Arab Peninsula: Saudi Arabia, Kuwait, UAE, Qatar, Bahrain, Oman, Yemen	Unavailable	9	9
Central Region: Egypt, Sudan, Somalia, Djibouti	75	161	86
Maghreb	161	352	191

**Table 2: Average Per Capita Consumption, in Liters Per Day, for Drinking and Civilian Purposes**

Group	Its Countries	1990	2000	2010	2020	2030
1	Saudi Arabia, Qatar, Kuwait, Bahrain, Oman, UAE	200	230	260	280	300
2	Syria, Jordan, Lebanon, Tunisia, Morocco, Iraq, Libya	120	150	175	200	220
3	Sudan, Egypt, Mauritania, Algeria, Somalia, Djibouti, Yemen	75	100	120	135	150

**Table 3: Annual Water Demand Balance (in Billion m<sup>3</sup>)**

Item	2000	2010	2020	2030
Water Needs Based on Current Population Growth	362	417	497	611
Actually Utilized Water Sources (After Development)	207	245	298	352
Actual Water Deficit	155	172	199	259
Utilized and Unexploited Natural Water Resources	352	352	352	352
Water Deficit Compared to Natural Resources	10	65	145	259

## INDIA

### Ministry Explains Stand on Polluting Industries

92WN0584A Bombay THE TIMES OF INDIA  
in English 26 Apr 92 p 13

[Article by Manoj Mitta]

[Text] New Delhi, April 27—The environment ministry does not see eye-to-eye with the supreme court on the issue of reprieve to polluting industries.

The court holds that a notification issued in this regard by the ministry is "in contravention" of its orders. On the other hand, the ministry asserts that this is not so.

In an affidavit filed last week, the ministry defended the notification, issued on February 12, giving the polluting industries a reprieve of one to two years. This affidavit was in response to an explanation demanded by the court on April 9.

The ministry has, in its affidavit, sought to justify its action by making some claims that do not square with the records.

Firstly, the affidavit says the notification issued by the environment minister, Mr. Kamal Nath, "just sets an outer limit on the discretion of the Central/state pollution control board within which the standards...have to be met.

In reality, an earlier notification, issued when Mrs Maneka Gandhi was the environment minister, had already set the outer limit as December 31, 1991. The present notification has only let the polluting industries off the hook by extending the deadline to December 31, 1992, for the ones established after 1981 and to December 31, 1993, for the ones set up earlier.

Secondly, the outer limit fixed by Mr. Kamal Nath's notification, according to the affidavit, has the effect of limiting or restricting the discretion conferred on the pollution control boards.

But the irony is Mr. Kamal Nath's notification, far from limiting it, has created a discretionary power. It is only on account of this notification that the boards can now give the industries a reprieve of one to two years.

On the other hand, Mrs. Maneka Gandhi's notification had taken away the discretionary power of the boards to give the industries any kind of reprieve. The only discretion permitted by her notification was that the boards could reduce (and not extend) the period in which any industry was stipulated to comply with the standards.

Thirdly, the affidavit asserts that Mr. Kamal Nath's notification is "in confirmity" with the court's "intention" as evident from the court's conduct in the period between December 31, 1991, and the issuance of the notification. According to the affidavit, the court also

ordered during that period the closure of only those industries that had not taken "any steps" for meeting the standards.

### Increase in India's Forest Cover Registered

BK3105144092 Delhi All India Radio Network  
in English 0830 GMT 31 May 92

[Text] Satellite pictures have shown that the country's forest cover is not dwindling anymore and has in fact registered a net increase of 560 square kilometers during the past few years. According to official sources in New Delhi, this was revealed in the forest report pertaining to the period 1987-88. The increase in the country's forest cover is being considered a major breakthrough in afforestation.

## IRAN

### Rafsanjani Message to Nation on Environment Day

NC0506075692 Tehran Voice of the Islamic Republic  
of Iran First Program Network in Persian 0330 GMT  
5 Jun 92

[Text] President Hashemi-Rafsanjani has sent a message to the nation marking 15 Khordad [5 June], World Environment Day. The president stressed in the message: Man's environment is facing an unprecedented crisis which, contrary to other problems, is not confined within the borders of countries, but is a worldwide problem rooted in basic socioeconomic shortcomings and in the unhealthy relationship between man and nature.

Noting that the current unhealthy, unstable environmental situation is dangerous and harmful to all mankind, Hashemi-Rafsanjani stressed: The key to solving the current universal environmental crisis is liberal cooperation and solidarity among all peoples. Governments have no alternative but to cooperate sincerely toward this end.

The president noted that environmental preservation, which is one of the crucial principles of our Constitution, is no more than correctly managing man's prudent exploitation of nature and that this does not impede advancement, but ensures stable, persistent, and healthy progress which conforms with the international strategy of preserving nature and natural resources. Based on its deep belief in confronting environmental problems, the Islamic Republic will carry out its international and regional responsibilities to the best of its ability in unison with all the appropriate and responsive world organizations.

## IRAQ

**Green Party Chides Greenpeace Stance on U.S., Oil Tax***JN2405145392 Baghdad INA in English 1300 GMT 24 May 92*

[Text] Baghdad, May 24, (INA)—The Iraqi environment activists have slammed the stance of the European Greenpeace activists favouring the United States policy towards protection the environment in the world.

Mr. Mazhar 'Arif, chairman of the Iraq Green Party (under establishment) expressed surprise over a call by the European green deputies to impose tax on each raw oil barrel on the plea of employing it in the field of environment protection.

In an interview with BABIL paper of Baghdad, Mr. 'Arif said that those deputies are well aware that the United States and the major industrial nations are responsible for threatening safety of the environment, not the oil exporting countries.

He said that this European proposal presented a yeoman's service to the U.S. design that aims at driving down OPEC prices and as a severe blow to the plans and programs of the oil producing developing countries which their revenues suffered from erosion by the virtue of deviate policies of the oil cartels.

Mr. 'Arif also criticised ignorance of the European green activists of the unjust economic blockade imposed on Iraq and the block of exporting its oil and Washington policies that aim at controlling over oil fields.

## ISRAEL

**Marinov Cites Divided Authority on Environmental Problems***TA2505134292 Jerusalem Qol Yisra'el in English 1000 GMT 25 May 92*

[Excerpt] [Passage omitted with NEWSWEEK report on environment] The director general of Israel's Environmental Protection Ministry, Dr. Uri Marinov, says Israel's biggest problem is contaminated water reservoirs and the lack of water treatment facilities. He was speaking to reporter Dani Gur-Arye:

[Begin recording] [Marinov] We do have still some problems, especially as far as water quality and sewage is concerned. You have to understand that one area that has not been well-defined and organized after the establishment of the ministry two-and-a-half years ago is the question of water quality and sewage treatment. Unfortunately, that situation has deteriorated in the last few years. We have untreated sewage flowing in wadis around the country, and except for the Tel Aviv-Dan Region, we really do not have adequate sewage treatment

around the country, which also, of course, affects ground water and in certain areas, the quality of the marine water.

[Gur-Arye] *Is this a problematic issue because it is an issue that several ministries see themselves as looking after?*

[Marinov] My evaluation is that this is the major problem. It is not a technological problem, it is not even an ecological problem, it is a question of lack of a single authority. We have demonstrated time and again that once a certain area is being transferred to us as solely responsible, like marine pollution or air pollution, or others, we have been successful in introducing new legislation, enforcement, and planning. But, when a subject is so divided between four or five different ministries and the municipalities, and everyone has different ideas, that is probably the major cause of the problem. [end recording]

**Conference To Focus on Problems of Immigrant Chernobyl Victims***TA0406093392 Tel Aviv YEDI'OT AHARONOT in Hebrew 4 Jun 92 p 15*

[Report by Yitzhaq Bar-Yosef]

[Text] Of the 100,000 immigrants who have arrived from the Chernobyl area over the past five years, 10,000 have been seriously harmed by nuclear radiation from the accident at the nuclear reactor six years ago.

These figures, which greatly exceed the Health Ministry's estimates, will be presented at the first conference on the social and medical problems of immigrants from the Chernobyl area, which is being held at the Hebrew University in Jerusalem today.

Dr. Roma Zwank, a researcher at the Hebrew University's Center for the Study of the USSR, who once held a senior position in the Soviet public medical system that dealt with Chernobyl victims, says the Health Ministry's forecasts regarding the incidence of disease among immigrants are unrealistic.

According to him, an amazing 100-fold increase in the incidence of cancer among the population that has been exposed to radiation—mainly children—was recorded last year in Byelarus, the former home of many immigrants. The experience with Hiroshima victims shows that the rise in the outbreak of diseases among radiation victims begins six years after exposure and reaches a peak 15 to 20 years later.

Dr. Zwank urges the authorities to conduct more comprehensive periodical checkups on Russian immigrants, looking out mainly for leukemia. Many immigrants have told him that the public health agencies do not take their special complaints seriously and that there is no appropriate medical follow-up. The immigrants also report that their blood samples are not scanned with due care.

Dr. Ze'ev Wolfson, one of the conference organizers, recently received new material from Professor Andrey Yablokov, an adviser to the Russian president, indicating that high concentrations of radioactive fallout were discovered in areas over 2,000 km north and east of Chernobyl, as far as the Volga. Concentrations exceeding 40 curie per square kilometer were discovered in those locations. The normal concentration is five curie, and the red line is 15 curie per square kilometer. It had previously been thought that the danger area extended no further than several hundred kilometers from the reactor.

The conference, which was organized by the Center for the Study of the USSR, will be attended by researchers and physicians from Hadassah Hospital in Jerusalem, the Beersheba University, Karmel Hospital in Haifa, and Ecology and Environmental Protection Ministry experts.

## MOROCCO

### National Efforts To Respect Environment Noted

LD0606161992 Rabat MAP in English 1328 GMT  
6 Jun 92

[Text] Rabat, June 6 (MAP)—Inspired by the teachings of Islam, Morocco makes of the question of environmental protection a moral duty for all its people. A month ago King Hassan II said in his message to the international seminar on "Environment Ethics and Spirituality" held in Rabat: "The respect of our natural milieu is not only a material problem but also a moral duty that goes beyond the space-temporal barriers".

"The management of the human environment cannot, then, be separated from a deep reflection on human rights and duties", the sovereign went on to say.

After it suffered from natural hazards (drought) and man-made catastrophes (oil spill caused by an Iranian tanker off Moroccan coasts), Morocco exerted tremendous efforts both nationally and internationally in the field of environment protection. On the national level, various projects were set up and laws were passed for the strengthening of the structures related to environment management and protection. On the international level, Morocco which is currently participating in the Earth Summit in Rio de Janeiro (Brazil) contributed effectively in multilateral UN meetings on the environment and in regional conferences such as the 2nd Euro-Mediterranean environment conference held last April in Cairo, Egypt and the meeting of the executive bureau of the Arab Environment Ministers Council.

Concern over environmental protection is present in all projects in Morocco whether in industry, tourism or agriculture...and environment protection has been included in the educational syllabus.

## SRI LANKA

### Forest Cover Likely To Be Only 12 Percent by Year 2000

BK0306100092 Colombo LANKAPUVATH in English  
0903 GMT 3 Jun 92

["OANA/pool" Item]

[Text] Colombo, Jun 03 (LANKAPUVATH)—Sri Lanka's forest cover will be reduced to a mere 12 percent by year 2000, if the present alarming trend continues. Sri Lanka's Minister for Environment Dr. Wimal Wickramasinghe said at a press conference in Colombo Wednesday that Sri Lanka's forest cover is on the decline. In 1980 it was 38 percent and was reduced to 27 percent by the year 1986. According to a recent survey it has been revealed that Sri Lanka's forest cover now stands at 24 percent. Dr. Wickramasinghe said "we should adopt a matching operation between deforestation and reforestation to solve the problem."

## UNITED ARAB EMIRATES

### New Afforestation Project To Go Into Effect in Dubayy

92WN0485A Al-Shariqah AL-KHALIJ in Arabic  
14 Apr 92 p 3

[Text] Tomorrow, under the auspices of His Highness Shaykh Hamdan Bin-Rashid al-Maktum, minister of finance and industry and president of the municipality of Dubayy, the city will celebrate the twelfth Arbor Day by putting into effect the first phase of the Mushrif forestation plan, which will run until next September.

In a press conference held yesterday on the occasion of the state's celebration of Arbor Day, 'Abd-al-Karim Balshalat, director of the Department of Agriculture and Public Gardens in the municipality, explained that the Mushrif forestation plan, which will be carried out in three stages, comes within the forestation project that will be carried out in various regions in the United Arab Emirates [UAE] over 25 years, to cover about 5,000 hectares.

He added that the Mushrif forestation plan, under which about 400 hectares are to be planted, includes the region lying between Mushrif Garden and the city limits of Mardaf, up to al-Khawanij Street. Meanwhile, a study of the al-Qusays forestation plan around the waste collection center is being made, in which planting experiments were done for this purpose.

Balshalat said: "The forestation plan in the UAE, which will be carried out over 25 years, will concentrate on industrial regions, in order to limit pollution resulting from urbanization and technological development. Irrigation water provided by the sewage treatment station will be used, which will cover the needs of the trees that

will be planted for a period of from three to five years, after which the trees will depend on themselves to get the water they need."

The director of the Department of Agriculture and Public Gardens stated that the ongoing projects were a garden between the al-Maktum and al-Qarhud bridges and the gardens of al-Tuwar and Umm Saqim. These fall within the plan for gardens of residential neighborhoods, which are implemented as construction extensions. In addition, there will be 100 public squares over all regions of the emirate. So far, 19 squares have been completed.

In this context, he mentioned that, this month, the city will receive the al-Saff garden, after the development plan is implemented. Its costs have reached about 45 million Emirian dirhams, and it will be opened to the public only after two months, in order to protect the new plantings. He mentioned that, as the project was being implemented, the problem of a rising water table in the garden had been overcome.

Regarding the program for Arbor Day festivities, Balshalat explained that, at 1600 tomorrow, Wednesday, seedlings would be distributed to people in the Dayrah regions, in the city center in al-Rashidiyah, the al-Hamriyah garden, the Mushrif garden, the al-Qusays square, and the al-Tuwar square. In addition, about 1,500 flowers will be distributed to government departments, establishments, and hospitals in Dubayy.

On Thursday, the day after tomorrow, the Agriculture Section will implement the second phase of the project to plant the Dubayy/al-'Ayn road with prosopis and arak, over a distance of 23 km up to the al-Faq' region, where

the section has completed the first phase of the same distance, 23 km of the project.

He added that at 1600 on Thursday, seedlings would be distributed to people in Barr Dubayy through the city center in al-Karamah, Umm Saqim, the al-Wasl garden, the Za'bil region, the Nadd al-Shaba region, and the al-Jafiliyah region. On Friday, seedlings will be distributed to people in the Hatta region through the Hatta city center.

He mentioned that about 20,000 seedlings would be distributed during the festivities to people in Mutawasi, varying between 15-25 seedlings [per home], with a maximum of 50 seedlings to homes that have large gardens. In addition, extension booklets on the care of house plants, and on garden pests and how to combat them, will be distributed.

On another subject, Eng. Midhat Sharif, head of the Agriculture Section in the department, explained that the program of Arbor Day festivities includes holding instructional lectures and conferences in the schools, in which engineers will talk about the importance of Arbor Day and urge the students to protect the plantings in public streets and gardens.

On the projects in progress, he said, "The agriculture section has finished providing 90 percent of the plants that need to be planted in the al-Mumzir garden, and which were produced in the city nurseries. Meanwhile, a study is currently being done on the gardens of al-Tuwar and Umm Saqim, after they were given to the state. The area of each garden varies between four and five hectares. As for the garden between the two bridges, building operations in the project are currently being implemented."



## RUSSIA

### Atomic Energy Minister's Article Prompts Further Criticism

92WN0545A Moscow ROSSIYSKAYA GAZETA  
in Russian 21 May 92 p 4

[Article by Aleksandr Veshnyakov, member of the Supreme Soviet of Russia; Aleksandr Yemelyanenko, chairman of the board of the movement Toward a New Earth; Candidate of Technical Sciences Vladimir Yakimets, Institute for Systems Research of the Russian Academy of Sciences, the Nevada-Semipalatinsk Movement: "No End to This Race Is in Sight. What Is Behind the New-Fangled Rhetoric of the Apologists of 'Nuclear Containment'"]

[Text] On 7 and 8 May, ROSSIYSKAYA GAZETA published the program article by Professor V. Mikhaylov, minister of the Russian Federation for atomic energy, "Nuclear Weapons." The article elicited an ambiguous response from the public. On 18 May, State Counselor of the Russian Federation A. Yablokov took the floor on our pages. Today, a deputy and public figures take issue with the minister.

For the first time, the general public has received more or less detailed information about our nuclear military-industrial complex at first hand: Prior to his appointment as minister, Viktor Mikhaylov oversaw the development, testing, and serial production of nuclear weapons for several years. The qualifications of the author are not in doubt. However, the article on the whole, which took up almost two newspaper pages, leaves the impression of being incomplete. The position of the author appears inconsistent and burdened with internal contradictions.

Anyone who will find and attentively read the article by the minister is welcome to ascertain this. We would like to outline our considerations concerning some of the issues touched upon in the article and share information that we see no reason to conceal, unlike V.N. Mikhaylov's colleagues and subordinates.

### The Demise of the Cold War Caught Nuclear Strategists by Surprise

We must have the civic courage to admit that the high drama of the times we are living through is due largely to our own short-sightedness. On dozens of occasions we came up with disarmament initiatives and engaged in what was habitually written of as a "ceaseless" struggle for peace. We managed to bring into the world, and fatten to the size of a ministry, a bureaucratic structure called the Committee for the Defense of Peace. However, at a practical level, we absolutely failed to prepare for the fact that the cold war would end sooner or later. However, it appears that it has ended. About 60,000 nuclear warheads, which the nuclear powers have accumulated over 40 years to intimidate each other, are now turning out to be extremely burdensome.

U.S. President G. Bush proposed to retain only 4,500 on each side; Russian President B. Yeltsin went further, believing that we may restrict ourselves to 2,500 warheads on each side. This would appear to be a marvelous prospect from any standpoint, except one: that of the technical feasibility of such radical plans to reduce the number of warheads. Our nuclear military-industrial complex is frankly unprepared to assume new responsibilities: instead of the designing and producing of warheads—their mass disassembly and dismantling; instead of building up the stocks of fissionable materials—their secure utilization, safe storage, and the cleanup of territories contaminated with radionuclides.

We are aware of the fact that the nuclear military-industrial complex is a powerful system subject to inertia, which develops in keeping with its internal laws; it has accumulated tremendous intellect, and scientific and production potential. It cannot be brought to a halt overnight, contrary to the laws of economics and common sense, by an august ordinance from the top or "by the demand of the working people," and immediately set in motion in the opposite direction. An economically substantiated, gradual program of conversion that is ecologically and otherwise acceptable should be developed for this sector.

We say "should be" because Mikhaylov's article suggests that there is still no such program. "In 1990, we prepared a concept of development and modernization (emphasis added by the authors—editorial note) of enterprises involved in the design, testing, and production of nuclear warheads before the year 2010," the minister stated publicly in May 1992, after the above-mentioned Bush and Yeltsin initiatives and the adoption of the Law on Conversion by the Supreme Soviet of the Russian Federation.

It is proper to note in this connection that the U.S. Department of Energy developed a program for the reclamation of the natural environment and the modernization of the nuclear military-industrial complex as early as 1989. It has already passed several exacting expert reviews to examine its technical and financial feasibility. This program, scheduled to last 30 years, is estimated to cost \$150 billion; it is being adjusted and perfected continually, with the participation of legislators, ecological groups, and the public.

As the aforementioned article by V. Mikhaylov suggests, calculations by our nuclear specialists call for allocating only 3 billion rubles, or the equivalent of approximately \$30 million at the current exchange rate, before 2010 for improving the safety of personnel, protecting the environment, and burying radioactive wastes. These funds will, perhaps, suffice for sweeping the compounds of all facilities of the nuclear military-industrial complex with a regular broom. To be sure, much radioactive dust will be kicked up; such a prospect could hardly suit the more than 1 million residents of special-security cities of the weapons complex.

### Secrets Are Best Kept Where They Are Born

The peculiar atmosphere of supersecrecy in which nuclear weapons were developed created special conditions for the operation and development of the nuclear military-industrial complex. Certain laws do not apply to many facilities of this complex and the people employed there, which essentially turns this sector into something resembling a state within a state.

The desire for total secrecy has infected the recently formed democratic power structures. Newcomer officials are trying to thus protect themselves against inconvenient questions and the need to provide explanations concerning them. President Yeltsin signed the Ukase on the Novaya Zemlya Testing Grounds, and some unknown behind-the-scenes operator immediately slapped on it the classification, "not for the press." It appears that only our press was meant, because several days later the full text of the ukase was published in Washington in English. However, Americans share not only "Soviet-made" secrets but, unlike us, quite easily give away their own.

For example, one of the authors of this article received as a gift a detailed chart of the Nevada testing grounds, with exact indication of geographical coordinates, code names, and the intended missions of two tests already held (26 March and 30 April) and three tests that were still planned for 1992: Galina, Victoria, and Green Water. In a word, THEY do not conceal their intentions from the public, whereas HERE, despite a public promise by Mikhaylov himself, organs of environmental protection are unable to secure access to exhaustive information on 115 underground nuclear explosions set off in various regions of the former USSR "in the interests of the national economy." These experiments did not have any military significance, as their organizers maintain; if so, what is the explanation for the continued silence? Could it be the fact that a discharge of radioactive products to the surface of the Earth has been detected at certain wells, and the subsurface migration of radionuclides has been noted in other areas? Is this not the time for one of the main directorates of the nuclear ministry to administer a thorough review of facilities that reported to it at one time, to analyze the current condition in depth, and to give a prognosis of the radiation status at the locations in which "peaceful" nuclear explosions were set off?

For example, maps have been published in the United States that indicate the locations of the enterprises of the nuclear military-industrial complex and the extent and localization of radioactive contamination.

### Who the Greens Represent and What They Seek

Those who vigorously criticize the strategy of so-called "nuclear containment" are quite frequently rebuked for being short-sighted, lacking patriotism, and even being accomplices of foreign intelligence services. This is explained to us didactically: "The demand to discontinue nuclear testing and to close down testing grounds is

nothing else but unilateral disarmament, which upsets existing disproportions (?) and undermines stability."

Is this indeed the case, and is this what we strive for?

Some of our opponents incorrectly interpret the essence of a modern approach to the struggle for universal disarmament, in the belief that in our country, it has shifted toward UNILATERAL NUCLEAR DISARMAMENT. The vicious circle of cold war times was not broken for 40 years precisely because each of the sides of the nuclear pentagon believed that the other sides should begin to reduce their arsenals first, and justified its development efforts and testing by the fact that others conducted such tests. IT WAS NECESSARY TO ABANDON THIS IDEOLOGY AND SET AN EXAMPLE—REDUCE PRODUCTION AND STOP TESTING, BEGINNING WITH ONE'S OWN COUNTRY.

The long-awaited steps were taken by the public organizations of our country, primarily by the Nevada-Semipalatinsk Movement. The will of the people, supported by the members of parliament, bore fruit: Testing at the Semipalatinsk testing grounds was discontinued as a result of a two-year moratorium by the people, which was not announced officially. This fact could not help but be reflected in the policies of other members of the nuclear club. The United States went from 17 explosions in 1981 through 1985 to between five and eight tests in 1991 and 1992. From 12 explosions in 1981, France went down to six in 1991, and on 8 April, ANNOUNCED THE SUSPENSION OF ITS PROGRAM THROUGH THE END OF 1992. Great Britain has also reduced its testing activity.

Therefore, a trend has emerged. It is not about UNILATERAL DISARMAMENT, BUT RATHER ABOUT GENUINE ACTIONS, which are different in principle from the demagogic twaddle of the professional "fighters for peace" of the 1970's and 1980's.

### A Prescription for All Times To Come, or a Dangerous Misconception?

From the very beginning, the disintegration of the Soviet Union resembled the painful splitting of a huge communal apartment, with a lot of offense and suspicion. However, the similarity of the Union and the communal apartment exists only until such time as we touch on the nuclear inheritance. These mutually acquired assets are not to be divided. At any rate, this is the interpretation that current international law puts on the situation, in particular, the Treaty on the Nonproliferation of Nuclear Weapons and Nuclear Technologies.

The leaders of some independent states that have inherited the nuclear burden of the USSR have stated their recognition of the treaty but are behaving inconsistently.

As is known, Nursultan Nazarbayev made the withdrawal of strategic nuclear weapons from the territory of Kazakhstan contingent on similar steps on the part of

Russia and the other members of the nuclear club; before then, he had proposed that his republic be considered a nuclear state, to which effect an official notification was sent to the U.S. President. However, as early as 18 May, as Nazarbayev was embarking on a visit across the ocean, he announced to journalists at the airport that Kazakhstan would sign the Treaty on the Nonproliferation of Nuclear Weapons as a nonnuclear state.

Leonid Kravchuk, who proclaimed the aspiration of Ukraine to the status of a neutral and nonnuclear country, gave a command, on a resounding pretext, to suspend the removal of tactical nuclear weapons beyond the borders of the republic, and subsequently did not agree to rescind his own order for a long time...

It is easy to understand their motives for such actions: When the resolution of conventional issues of property is at an impasse and strife over territory is a prospect, several hundred nuclear weapons retained until a later time in their territories may come in quite handy as an argument in a dialogue between the sides.

During a recent trip to Arzamas-16 and meetings with the key developers of nuclear weapons, one of the authors happened to hear a truly sacramental phrase: "If you will, nuclear weapons are an argument of coercion to peace..." The chief designer of the All-Russian Research and Scientific Institute of Experimental Physics built on this idea: "There is something to the saying, 'Fight fire with fire.' Nuclear weapons are necessary for as long as we trail behind the Americans in terms of conventional weapons. This is the only way to protect ourselves against dictates. Otherwise, we will be crushed at any time, as Iraq was... They are a club that prevents this..." As the saying goes, thank you for being frank, but this is very reminiscent of the phraseology dating back to the cold war.

While advocating the extension of the Russian moratorium, we thoroughly analyze the behavior of other nuclear powers and follow their response. We should note that unilateral steps taken by Kazakhstan, Russia, and quite recently, France, do not go unnoticed in the United States. According to a number of public opinion polls, about 75 percent of the U.S. population favor discontinuing nuclear tests. A legislative initiative to introduce a one-year moratorium on nuclear testing in the United States has already gained the support of 216 members of Congress, and has a good chance of passage during hearings in the House of Representatives. For now, a similar bill has 35 supporters in the Senate; there is hope that this number will increase to that necessary for the decision to be made.

If this does not happen, or if President Bush uses a veto and the United States continues nuclear tests, France and Russia will also be compelled to resume them. By 1995, when the effect of the Nonproliferation Treaty expires, about 20 threshold countries will gain the moral

right to begin building their own arsenals of nuclear weapons. A virtually uncontrollable process of nuclear proliferation will begin.

Will the U.S. legislators take advantage of this historic opportunity, or will the nuclear arms race, which was stopped as the cold war ended, begin to pick up pace again, like a car after a sharp turn, in order to speed up and away along a tightly spun spiral?

In a conventional sense, this race has no finish line: Either we ultimately tame great-power ambitions and reach a nuclear-free world, or everything will end in a nuclear apocalypse.

### **Russian Moratorium, PRC Nuclear Tests Viewed**

PM2705085692 Moscow KOMSOMOLSKAYA  
PRAVDA in Russian 27 May 92 p 1

[Interview with Valeriy Bogdan, chief of the secretariat of the Russian Federation Ministry of Atomic Energy, by Correspondent A. Khokhlov; place, date not given: "While the 'Greens' Look for a Bald Deer, Silos for Nuclear Charges Are Being Prepared in Novaya Zemlya"]

[Text] China carried out its latest underground nuclear explosion on 21 May at the Lobnor nuclear testing range in the Xinjiang Uygur Autonomous Region (not far from the Russian border). Swedish seismologists assessed its yield at one megaton. Russian experts are talking about two megatons. In any case, it was one of the most powerful nuclear explosions in the world in recent years. And while the two nuclear superpowers, Russia and the United States, are vying with one another in peaceability, a third nuclear giant is emerging in the world.

Valeriy Bogdan, chief of the secretariat of the Russian Federation Ministry of Atomic Energy, answers KOMSOMOLSKAYA PRAVDA's questions.

[Correspondent] Have there been explosions of a similar yield in our country?

[Bogdan] Yes, and even bigger. But that was a long time ago. Under the bilateral Treaty Between the USSR and the United States on the Limitation of Underground Nuclear Tests we started exploding charges of a yield of not more than 150 kilotons. China has not concluded any similar treaties.

[Correspondent] The echo of the underground explosion even reached Sweden. Presumably China was testing a new generation of weapon?

[Bogdan] Third-generation nuclear weapons are low-yield weapons. They are distinguished by high accuracy of delivery to target and, let us say, certain peculiarities in the destruction of targets and enemy manpower. The Lobnor test indicates that China does not yet have such weapons. But that country's scientists are continuing to develop the national nuclear program.

[Correspondent] Our nuclear testing ranges have been silent for two years now. Will they "speak" again?

[Bogdan] That is a decision for the Russian Supreme Soviet. The position of the military nuclear experts is clear: You cannot move forward in the development of science and weapons expertise without conducting live tests, without real explosions. The Russian president is acquainted with that view. Yeltsin has promised us support and help.

[Correspondent] Is it necessary to improve nuclear weapons? Russia already has enough, most likely, to destroy the entire globe.

[Bogdan] No other nuclear power has proposed as many peace initiatives and moratoriums as the USSR, and now Russia. And today the only ones maintaining a "peaceful" silence are ourselves and France, which has also declared a moratorium on tests until the end of 1992. The other states belonging to the "nuclear club" are testing and carrying out explosions. China, for instance. A number of other countries will also become nuclear powers soon. Without the development of military science, without live tests, Russia will not be able to guarantee its own security in 10 years or so.

[Correspondent] How many nuclear testing ranges does Russia currently have?

[Bogdan] The USSR had two. You can forget Semipalatinsk today: Kazakhstan's position is clearly defined—there are to be no tests. Only the Novaya Zemlya range, the northern range, remains.

[Correspondent] But the ecological situation in the north of Russia is bad enough already, even without any more nuclear explosions.

[Bogdan] It is no worse there, though unfortunately it is no better either, than in many other regions of Russia. The nuclear contribution to pollution is far smaller than what is "depicted" by those who are today, in my view, whipping up passions over the Novaya Zemlya range.

A highly qualified team led by Professor Ramzayev from the St. Petersburg Institute of Radiation Hygiene has been carrying out a study in the north for 30 years. The radiation factor is by no means in first place on the list of factors having a harmful effect on ecology and on people's health. None of the ecology movement's activists has yet had any success in the search for a bald deer or a fish without scales. No such thing exists, although there are plenty of stories about such anomalous phenomena. It is reminiscent of the episode of the "sensational" photograph of the six-legged foal or calf—the "Chernobyl mutant." Until it turned out that this poor freak was photographed several years before the Chernobyl tragedy, in Yugoslavia.

[Correspondent] When does the unilateral Russian moratorium on underground nuclear tests expire?

[Bogdan] On 26 October 1992. Nuclear scientists are hoping that the Russian Supreme Soviet and the president will have made a final decision by that time. For the moment, ordinary, standard mining operations are continuing at the Novaya Zemlya range, silos are being prepared for the charges. Whether or not permission is granted for an explosion, we are preparing. But the hope remains that Russia will be able to reach agreement with the United States on the total cessation of nuclear tests. That would be the first step toward a nuclear-free world.

### **Gaydar Plan To Resume Nuclear Power Program Assessed**

*PM0206140492 Moscow KOMSOMOLSKAYA PRAVDA in Russian 2 Jun 92 p 2*

[K. Belyaninov report: "Russian Government Very Short of Energy"]

[Text] On 26 March of this year Ye.T. Gaydar, first vice premier of the Russian Government, signed directive YeG-P11-11639 on the resumption of the construction of nuclear power stations on Russia's territory and the expansion of the capacities of existing ones.

This decision could cause a stormy reaction. Suffice it to recall that the AES [nuclear electric power station] construction program in the former Soviet Union was completely axed six months after the Chernobyl accident, after rallies and demonstrations involving many millions of people. At that time even Gorbachev, who repeatedly spoke of the acute energy shortage, did not dare to resume the nuclear program: The consequences of this step could have been too unpredictable...

Gaydar's decision seems all the more strange in that it was signed two days after the incident at the Leningrad AES which made all the world start talking about the safety of our nuclear power industry. The German ecology minister, followed by politicians in France, Britain, Sweden, and a dozen other countries, categorically demanded the closure of all 16 reactors of the "Chernobyl" type operating on CIS territory, with all the others to be placed under rigorous international monitoring. You can argue, of course, about what prompted such a stormy reaction: real concern for the safety of our AES's, or the purely commercial desire to force Russia out of the international market in nuclear services. But there are also the findings of the commission set up by the Russian Ministry of Atomic Energy immediately after the Leningrad AES incident, and these are capable of alarming even the layman: The defect that led to the accident near St. Petersburg was found in virtually all the 11 RBMK reactors located in Russia. Six power units at the Kursk and Leningrad stations have already been shut down solely because of failures in the operation of shutoff-regulator valves. Each of them was producing a million kilowatts of electricity.

After the complete closure of the Chernobyl station, which produced more than 10 percent of Ukraine's energy, a bitter joke became current in the republic to the



effect that they would have to advance to independence in total darkness. This is no less real a prospect for Russia: The electricity shortage has already become possibly the main problem for the Far East, Siberia, and at least 10 oblasts in central Russia. But Gaydar's new "energy" plan will not do much to help here: Its proposed additional 10 million kilowatts a year will only be able to alleviate the crisis slightly, certainly not to eliminate it.

Nonetheless, according to the vice premier's decision, nuclear power stations are included on the "list of most important construction projects for 1992, which will be financed out of Russia's republic budget." A government resolution of 30 December 1991 already approves the continuation of construction work at the Kola, South Urals, Bilibin, Smolensk, and Balakovo AES's. To replace the currently operating Karelian, Inta, Kirov, Kaluga, and Volgograd GRES's [state regional electric power stations], nuclear power stations will be built, using them as bases.

Most likely on this occasion the ecological community will prefer to keep quiet. First, under Gaydar's plan some of the funds from running the power stations will go to local budgets—for building roads and hospitals and improving life in other ways. And second, a whole package of privileges is envisaged for the inhabitants of oblasts adjacent to the power stations: from financial compensation for the potential danger, to virtually free use of electricity. I am sure that given the current growth in prices, this consideration will sound more convincing than any calls to protect nature.

In January the Ministry of Economics determined the cost of the "nuclear program" for the first quarter—793.8 million. Now Ministry of Atomic Energy specialists claim that at least 20 billion will be needed just for the first three months. Economists prefer not to discuss where these funds are to come from.

Gaydar's logic is clear. The "Outline Plan for the Development of Nuclear Power in the Russian Federation" defines it quite unequivocally: "The program of economic reforms being pursued by the Russian leadership, oriented toward increasing the people's well-being, cannot be fulfilled unless the further development of the power industry is built into its foundations." The atomic experts' logic is also clear. The suspension of the nuclear program has already put thousands of specialists out of work, and its resumption will give them at least some opportunity to stop worrying quite so much about the future. Only one thing is not clear: Why do even the members of Russia's Supreme Soviet not know about the government's crucial decision, to say nothing of the public? After all, the document approved by Gaydar says quite clearly on this point: "It is necessary to form positive public opinion (about nuclear power—*editor's note*) on the basis of openness, objective information, and the possibility of public supervision..."

### Russian Nuclear Industry in Need of Greater Regulation

92WN0567A Moscow ROSSIYSKAYA GAZETA  
in Russian 2 Jun 92 p 5

[Article by Yuriy Rogozhin and Gennadiy Tyurin, experts of the Russian Federation Supreme Soviet: "The Atom in the Law. Drafting Legislation in the Nuclear Field Is One of Russia's Urgent Duties"]

[Text] The first laws on the utilization of atomic energy were passed in the United States and England in 1945. All the countries involved with the nuclear problem followed them. Even New Zealand had this kind of legislation by 1949. National features notwithstanding, atomic law abroad has a number of common features. It necessarily includes matters pertaining to the regulation of organizational and managerial relations during the development and operation of nuclear facilities and protecting people against ionizing radiation.

For more than three decades the Soviet Union was the only nuclear power that did not have one single law regulating rights and responsibilities in the utilization of atomic energy. Only statutory instruments and standard documents dealing with matters of radiation safety standards or sanitation rules were in operation. While they regulated technical, medical, economic, and other special aspects, these documents did not provide legal protection for subjects involved (often against their own wishes) with the sphere of the utilization of atomic energy.

We all tasted the fruits of this kind of legal nihilism after the Chernobyl catastrophe, when it was necessary to draw up government decrees in short order, and then a law on the cleanup. Before that there was the Kyshtym tragedy, which was for a long time "hushed up" merely by an order issued by the Ministry of Medium-Sized Machine Building. And how many other small Chernobyls and Kyshtyms have there been?!

The lack of atomic legislation is explained in part by the secret nature and strict control by the state, but in general it is a natural consequence of the sociopolitical system. It was replaced by surrogates—departmental enactments, standards, and requirements in the form of directives. And this, of course, created fertile soil for departmental arbitrary rule, voluntarism, and disregard of the interests of the public so that those developing nuclear equipment and the operating bodies and associated state structures could reach narrow plan goals. Thus, numerous nuclear explosions (both military and for peaceful purposes) were conducted without any reliable consideration or limitation of the radiation consequences, which did substantial radioecological damage across large territories. Despite the recommendations of major experts (academicians N.A. Dollezhal, V.A. Legasov, and A.D. Sakharov) nuclear power stations were concentrated thoughtlessly in densely populated regions, and as a result a threat to the health of the population arose. And direct damage was inflicted on the



population because information about the radiation situation during nuclear accidents was hushed up, and no recommendations were issued about protecting people and nature. Finally, because of lack of information, people have an inadequate idea of problems in nuclear power engineering, and this is delaying its safe development even under conditions in which the energy crisis may lead to the most serious consequences.

The legal vacuum typical of a totalitarian state is today becoming quite intolerable. The specific nature of the moment gives special significance to work on atomic legislation.

There is now a need for broad-scale modernization of nuclear power engineering in Russia (primarily in order to improve safety), and for amending military doctrine with respect to the part dealing with the development, production, and use of nuclear weapons. Next in line are practical steps to reduce nuclear weapons, utilize them, and the burial of radioactive waste. All of this is associated with significant costs and requires coordination of efforts by the major scientific and production collectives. Only the government is able to resolve tasks on such a scale. And since the directive levers for management of the economy no longer exist, the main instrument of effective state regulation of large-scale technical nuclear programs should be developed atomic legislation.

Using strictly legal language, it should include the following: first, a set of legislative enactments to underpin the basic approaches, standards, and principles in the activity of legal entities and individuals in the field of atomic energy, and also defined liability for failure to observe them; second, government decisions and presidential ukases aimed at meeting legislative standards in practical activity to implement large-scale technical nuclear programs; third, a system of enforceable enactments at various levels to insure compliance with the specific requirements of a production-technical, environmental, and sanitation-and-hygiene nature, drawn up during the development of legislative enactments and decisions reached by the executive power.

In addition, the world is worried about the unregulated nature of legal problems connected with the movement of radioactive contamination across borders and compensation for damages resulting from accidents having radiation consequences, and about insuring safety in the movement of radioactive materials and the burial of radioactive waste. Hence it follows that Russia faces the need to provide legal underpinning for international standards and principles, and to enter into international agreements regulating interstate relations in the nuclear field. These documents should become one of the most important aspects of atomic legislation in the federation.

Throughout last year and the beginning of this year, at the initiative of both the Supreme Soviet and government bodies, efforts have been made to draw up individual enactments. Several versions of a draft law have been prepared on the utilization of atomic energy, but

because of changing political and economic conditions this needs major revision. The same applies to a draft law on the security of nuclear weapons drawn up in 1991. Work is nearing completion on a draft law "On State Policy in Dealing With Radioactive Waste."

To what extent are these drafts coordinated, and do they cover the entire field of legislative regulation of nuclear activity in Russia, and what documents are still needed to provide complete legal support for this activity? These questions must be answered before individual legal packages are adopted. In other words, it is necessary to formulate a scientifically sound, systems approach to lawmaking in the nuclear field and to devise a program to draw up and pass the laws.

In order to resolve this important task the Russian Federation Supreme Soviet has formed a group of independent experts that includes people's deputies from the committees handling matters of the environment and the rational utilization of natural resources, and industry and power engineering, and also leading specialists in the field of atomic legislation, radiation safety, nuclear power engineering, and nuclear weapons. The group will have completed its work in June. The experts' conclusions will form the basis of Russian Federation Supreme Soviet strategy in regulating interdepartmental and public relations in the field of the utilization of atomic energy and for defense purposes, and also in the development, testing, and elimination of nuclear weapons.

All that remains to be done is to express the wish that the economic and political problems of the moment, with which our parliament is burdened, will not overshadow the insistent need to work on atomic legislation.

### **Nuclear Reactors at Krasnoyarsk-26 To Shut Down**

*PM2505144192 Moscow Teleradiokompaniya  
Ostankino Television First Program Network  
in Russian 1100 GMT 21 May 92*

[From the "Novosti" newscast: Video report by Ye. Kozlova and A. Yeskin, identified by caption, from Krasnoyarsk-26]

[Text] [Announcer] The Collegium of the Russian Ministry for the Supervision of Nuclear and Radiation Safety has adopted a decision to shut down two nuclear reactors at the mining and chemical combine in Krasnoyarsk.

[Kozlova over video of a factory gate being opened] The gates of Siberia's nuclear city—Krasnoyarsk-26—which helped to create the country's defense potential were firmly closed for some 30 years. The reactor and radiochemical production facilities of the mining and chemical combine, where plutonium-239 was produced, and the contents of the radioactive waste storage installation constituted a military secret.

For the sake of the kray's population, the state administration spun a myth claiming that nothing terrible was

going on in the city, that reliable technologies were being used, and that there were no leaks of radionuclides either into the soil or the Yenisey River.

After the Chernobyl tragedy, people not only did not want to live in an atmosphere of a nuclear threat, they protested. This is why people have perceived the decision by the Collegium of the Ministry for the Supervision of Nuclear and Radiation Safety to shut down the first reactor by 1 July as a personal victory.

[V.I. Zykov, reactor plant deputy chief engineer, identified by caption] This is probably the first time that you are standing on top of a nuclear reactor?

[Kozlova] You are quite right, I have never done this before.

[Zykov] For us this is quite normal. Our staff are working here. It is safe.

[Kozlova] Now the reactor is to be shut down. What is your attitude to this?

[Zykov] I believe that this is a natural process. The reactor has come to the end of its service life. It is a sign of the times, no doubt. Weapons-grade plutonium is no longer needed by Russia in the quantities in which it used to be produced.

[Kozlova] How about you, personally. Are you not afraid of unemployment?

[Zykov] I believe that we will be able to find work.

[Kozlova] The conversion now under way at the combine will create new jobs and ease social conscience. [video shows factory gate, street scene, radiation meter, track leading into a tunnel, various aspects of reactor hall, interview]

### **Nuclear Explosions To Mine Ore Discarded as Dangerous**

*LD2505201692 Moscow ITAR-TASS in English  
1224 GMT 25 May 92*

[By ITAR-TASS correspondent Vasil Belousov]

[Text] Murmansk, May 25 (TASS)—Following a thorough analysis of the results of a years-long experiment, environmentalists at the "Apatit" production amalgamation have concluded that the mining of apatite ore by means of nuclear explosions, suggested by one of the country's research centres and tested at the Kuelpo deposit in the Khibiny mountains (Kola Peninsula) is not only ineffective but dangerous to the environment, too.

The underground working area where the nuclear technology was tried out has been mothballed. The makeshift housing settlement with all ancillary outbuildings has been pulled down and ore that was mined and stored on the surface is reliably shielded.

"Radio nuclides from radiologically dangerous areas can move out only by subterranean waters," maintains Anatoliy Pozdnyakov, general director of the amalgamation. "The cleanliness of the areas is continuously monitored by scientists together with the amalgamation's ecological service. So far, we have no grounds for concern over a radiological contamination of terrain—the radiation level here is within international sanitary norms.

"But the future of the Kuelpo deposit cannot but be a matter of concern. Plans for further development of the apatite industry in the Khibiny mountains were associated with it. But nuclear explosions have rendered it inoperative for decades ahead if not forever," Pozdnyakov said.

### **Falling Population Growth Worries Demographic Scientists**

*LD2005201692 Moscow ITAR-TASS World Service  
in Russian 1100 GMT 19 May 92*

[By ITAR-TASS correspondent Ivan Novikov]

[Text] Moscow, May 19—Russian scientists are appealing for a demographic analysis council to be set up under the umbrella of parliament and the president. Analysis of the changing dynamics of population growth has revealed that Russia is falling into a demographic crisis, an aftermath of socio-economic and psycho-moral crises.

Professor Aleksandr Kvasha, head of the Moscow University center for research on demographic problems, pointed out in an address today at the 'White House' parliamentary hearings that for the first time in Russian Federation history mortality has exceeded the birth rate. This demographic abnormality has become particularly striking in the last 3 years.

Nazmetdinova, who chairs the parliamentary committee for women's affairs, for protection of the family, motherhood and childhood, cited dismal facts pertaining to the changes in the demographic balance in the Russian state. For example, the birth rate has dropped by 30 percent in recent years. The demographic downturn has been especially drastic in Russia's non-black earth zone. The country's population growth is expected to be in the area of 0.1 percent this year.

The lowest overall birthrate figures in the entire post-war period have been recorded, with the biggest drop happening in 1991- 1992. Mortality rate records are extremely high, having reached their peak last year.

The head of the parliamentary committee focused on empty maternity hospitals and a lamentable abortion situation: up to four million are performed per annum, by the most modest estimates. Fifteen percent of married couples stay childless in Russia, while more than 50 percent of families have one child.

It is high time for those in authority to face families and to seriously tackle problems of family planning, stressed Minrauza Nazmetdinova. "People's Deputies of Russia do have to have a clear view of the genetic and demographic impact on the nation of the decisions that they make."

### **95 Percent of Babies in Arkhangelsk Oblast Underdeveloped**

*LD2005221992 Moscow Russian Television Network in Russian 1900 GMT 19 May 92*

[From the "Vesti" newscast]

[Text] Twenty years of research by doctors from Arkhangelsk who have been studying the impact of the environment on the human organism has been completed. As a result of nuclear tests in Novaya Zemlya, pollution of the seas, and the appearance of an ozone hole over the area, Arkhangelsk Oblast has become an ecological disaster zone. Ninety five percent of children born here are weak and physically under-developed. There has been a five-fold increase in the number of oncological ailments.

### **Green Party Seeks Controls on Environmental Funding**

*MK2605184192 Moscow NEZAVISIMAYA GAZETA in Russian 26 May 92 p 6*

[Yuriy Meshkov "Ecology" report: "The Billions That No One Has Seen: Russian Green Party Demands Glasnost in Distribution of Money"]

[Text] The fact that the monitoring of the environmental situation in the capital has deteriorated and that deputies have forgotten about many of the nature protection programs (even though most people's elected representatives put ecology questions almost top of their election manifesto!) has forced the Moscow organization of the Russian Green Party to send an open note to Moscow City Soviet, the capital's mayor, and the chairman of the Moscow Government. In accordance with Articles 12 and 13 of the Russian Federation Law "On Protecting the Natural Environment," the Moscow Coordinating Council of the Russian Green Party has demanded information on the following questions: 1—How much money has been allocated in the 1992 Moscow City budget for the solution of environmental problems?; 2—To which organizations and which environmental programs was money allocated, how much, and how much was distributed in the first quarter of 1992?; 3—How are objectivity and effectiveness guaranteed in the distribution of money for the solution of Moscow's environmental questions?; 4—In accordance with Article 3 of the Russian Federation Law "On Protecting the Natural Environment," how is glasnost ensured in the financing of environmental programs from the Moscow budget and environmental protection fund?

"In theory billions of rubles [R] have been allocated to environmental protection measures," Aleksandr

Kunarev, member of the Coordinating Council of the Russian Green Party's Moscow organization, said in conversation with your NEZAVISIMAYA GAZETA correspondent. "The Moscow budget alone should contain at least R2 billion for the environment. For a long time, however, we have been unable to obtain any information from the authorities on, most importantly, how this money is being spent. We advocate tendering for the financing of environmental programs, the maximum glasnost in the distribution of finance, and accountability in the use of that money."

### **Agreement Signed With Germany on Environmental Protection**

*LD2905080192 Moscow ITAR-TASS in English 1641 GMT 28 May 92*

[By ITAR-TASS correspondent Konstantin Savvin]

[Text] Berlin, May 28 (TASS)—An intergovernmental Russo-German agreement on cooperation in environmental protection was signed in Berlin on Thursday. The document was signed by Russian Minister for Ecology and Natural Resources Viktor Danilov-Danilyan and Federal Minister for the Environment and Nuclear Reactor Safety Klaus Toepfer. The agreement outlines the basic trends of cooperation.

Working meetings, joint research, exchange of specialists, scientific information and know-how are also envisaged. Both sides will promote economic and technical cooperation aimed at the solution of specific problems in environmental protection.

An agreement between the two ministries envisaging the setting up of a German-Russian environmental bureau in Berlin was signed on the same day. It includes, specifically, coordination of work on bilateral economic projects on the environment, assistance to the introduction of ecologically safe and conservation technologies. The bureau is called upon to encourage more active participation of firms of both countries in national and international ties between new Russia and united Germany, the minister said. This step bespeaks of great importance that both governments attach to cooperation in environmental protection.

### **Ukase on Protection of Territorial Waters, Continental Shelf**

*92WN0551A Moscow ROSSIYSKAYA GAZETA in Russian 23 May 92 p 6*

[Ukase of the President of the Russian Federation: "On the Protection of The Natural Resources of the Russian Federation's Territorial Waters, Continental Shelf and Economic Zone"]

[Text] For the purposes of the preservation and rational utilization of the natural resources of the Russian Federation's territorial waters, continental shelf and economic zone and fulfillment of the requirements of

existing legislation, and taking into account that the natural resources of the Russian Federation's territorial waters, continental shelf and economic zone are exclusively federal property, I decree:

1. That it be established that the exercise of the rights to disposal of the natural resources of the Russian Federation's territorial waters, continental shelf and economic zone, as well of the rights to the conservation and utilization beyond the boundaries of the Russian Federation's economic zone of stocks of anadromous species of fish that form in Russia's rivers, belong to the jurisdiction of the Russian Federation government and state management agencies specially authorized by it, which, according to established procedures, issue authorization for the use of the aforementioned resources to interested juristic and physical persons, with mandatory consideration for the interests of numerically small peoples inhabiting the territories adjoining the Russian Federation's seacoast.

The disposal of state-owned underground resources within the boundaries of the territorial waters (territorial sea) is carried out by the Russian Federation government and specially authorized state management agencies in conjunction with the republics belonging to the Russian Federation and with krais, oblasts and autonomous formations.

2. That the unauthorized disposal of the natural resources of the Russian Federation's territorial waters, continental shelf and economic zone by the executive agencies of the republics belonging to the Russian Federation and of krais, oblasts and autonomous formations, or by local governmental agencies whose administrative territories adjoin the Russian Federation's seacoast be deemed impermissible.

3. That the Russian Federation Ministry of the Environment and Natural Resources, the Russian Federation Ministry of Agriculture, the Russian Federation government's Committee on Geology and the Use of Underground Resources, and the Committee for Protection of the State Border provide for the conservation of the natural resources of the Russian Federation's territorial waters, continental shelf and economic zone in accordance with the requirements of existing legislation and this ukase, and promptly and decisively put a stop to the unauthorized use of those natural resources.

4. That the Russian Federation Ministry of Foreign Affairs, with the participation of the Russian Federation Ministry of the Environment and Natural Resources, the Russian Federation Ministry of Agriculture, the Russian Federation government's Committee on Geology and the Use of Underground Resources, and the Committee for Protection of the State Border, conduct negotiations with neighboring states on the questions of delimiting the territorial waters, continental shelf and economic zone.

5. That the Russian Federation Ministry of the Environment and Natural Resources, the Russian Federation Ministry of Foreign Affairs, the Russian Federation

Ministry of Agriculture, the Russian Federation Ministry of Transportation, the Russian government's Committee on Geology and the Use of Underground Resources, and the Russian Federation Ministry of Justice, with the participation of the Committee for Protection of the State Border, draw up and present by 1 June 1992:

—draft laws on the continental shelf and the Russian Federation's economic zone;

—draft administrative acts regulating the procedures for the conservation and use of natural resources and the conduct of scientific research within the boundaries of the Russian Federation's continental shelf and economic zone, and the conservation and use beyond the boundaries of the Russian Federation's economic zone of anadromous species of fish formed in Russia's rivers, as well as the exercise of state oversight in this area.

6. The ukase takes effect at the time of its signing.

[signed] B. Yeltsin, president of the Russian Federation  
Moscow, the Kremlin  
5 May 1992  
No. 436

#### **Russian Federation Resolution on UNESCO Hydrology Program**

92WN0559A Moscow ROSSIYSKIYE VESTI  
in Russian No 14, 29 May 92 p 4

[Russian Federation Government Resolution No. 323, issued on 18 May 1992: "On the Formation of a Russian Federation National Committee on the UNESCO International Hydrology Program"]

[Text] In order to ensure the Russian Federation's participation in the UNESCO International Hydrology Program the Government of the Russian Federation hereby resolves:

1. to form a Russian Federation National Committee on the UNESCO International Hydrology Program (subsequently to be referred to as "the National Committee.");

to assign the National Committee the task of coordinating participation by ministries, agencies, organizations and institutions of the Russian Federation in the UNESCO International Hydrology Program;

to establish that planning of that work shall be carried out by the National Committee in conjunction with the Russian Federation Ministry of Foreign Affairs (the Russian Federation Commission on UNESCO Affairs);

to form a working apparatus of the National Committee to consist of three persons from the staff of the institutions and organizations of the Russian Federation Ministry of Ecology and Natural Resources Committee for Hydrometeorology and Environmental Monitoring in the city of Moscow.



2. to appoint V. A. Kimstach, deputy chairman of the Russian Federation Ministry of Ecology and Natural Resources Committee on Hydrometeorology and Environmental Monitoring, to serve as National Committee chairman, and V. M. Kotlyakov, director of the Russian Academy of Sciences Institute of Geography, I. A. Shiklomanov, director of the State Hydrological Institute of the Ministry of Ecology and Natural Resources Committee on Hydrometeorology and Environmental Monitoring, and V. K. Zarubin, deputy chairman of the Vodstroy Water Resource Construction Concern, to serve as deputy chairmen of the National Committee.

3. to instruct the chairman of the National Committee together with the Russian Federation Ministry of Foreign Affairs (the Russian Federation Commission on UNESCO Affairs) to approve the National Committee staff and statute.

4. to establish that the National Committee represents the Russian Federation on UNESCO's Intergovernmental Council on the International Hydrology Program.

[Signed] Ye. Gaydar, first deputy chairman of the Russian Federation Government

## WESTERN REGION

### Environment Minister Challenges Legislators

AU2505181292 Kiev URYADOVYY KURYER  
in Ukrainian No 18 (64), May 92 p 3

[Unattributed report on news conference on environmental issues held in Kiev; date not given: "Legislators and Executives]

[Text] As already reported in the press, Ukraine's Ministry of Environmental Protection held a news conference. The leaders of the ministry acquainted reporters with results of work of Ukraine's ecological service over the last year and the first quarter of the current year. Difficulties were named that prevent the Nature Protection Ministry from becoming a genuine protector of the environment in which people, animals, and plants live. To begin with, these are the present economic crisis, the decline in production, the technological backwardness of many enterprises and industries, and the imperfect mechanism of influence, especially economic influence, upon the polluters. Minister Yu. M. Shcherbak, having critically appraised the work of his ministry, listed the main trends on which the activity of the protectors of nature must be concentrated. The main one is saving the Dnieper River and the ecologically ill towns in the Dnieper-Donets Region and overcoming the consequences of the Chernobyl catastrophe. In view of the fact that Ukraine's budget possibilities are presently limited, Yu. M. Shcherbak said that the ministry is expanding ties with ecological and "green" movements of developed countries and with international organizations. In particular, a credit of \$100 million is expected from the

International Bank, and this money will be channeled exclusively to the fulfillment of specific ecological programs in Ukraine.

Answers to numerous questions were given at the news conference. The URYADOVYY KURYER correspondent asked the following question:

*"Previously, the former USSR financed work on the elimination of the consequences of the accident at the Chernobyl Atomic Electric Power Plant. Following the disintegration of the USSR, Ukraine has to look for this capital on its own. You, as a member of the government, know well that the state coffers are half-empty. This is why the special "Chernobyl" tax has been introduced to fulfill everything planned regarding Chernobyl. In this connection, do you consider justified the statement by the people's Deputy Yavorivskyy on the Ukrainian television program "Bells of Chernobyl" to the effect that the Fokin Government has left to the mercy of fate those who have been affected by the accident?"*

This is what Yu. M. Shcherbak answered:

*"First, it is clear that we are an independent state and that we will no longer receive any centralized funds from Moscow. That is why, we will, certainly, have to resolve our own problems.*

*"Second, the 'Chernobyl' tax is quite a burden for enterprises, and it is not the only tax levied upon them. Generally speaking, I would say that the government's taxation policy is being subjected to extremely sharp criticism from all directions. Anyone who has to deal with the economy, realizes that there exists a certain optimal level of taxes that stimulates the activity of industry, but if the government proceeds beyond that level, stagnation and collapse of this industry will result. Entrepreneurs warn that if the present level of taxes in Ukraine is further maintained, this will lead to an economic catastrophe.*

*"I cannot say that the Fokin government must be held responsible for this. The laws were adopted by the Supreme Council, and it had to estimate in advance how much any particular law may cost. The government is the executive power. I do not want to voice accusations against Volodymyr Oleksandrovykh Yavorivskyy who has done much for the adoption of the Chernobyl laws. By adopting them, we have certainly paid tribute and respect to those people who had worked in the zone. However, we must now think in general of how to coordinate our expenditure on measures for social protection and our profits. This is the problem, and not only for the government, but, first and foremost, for legislators who adopt particular laws."*

### Fokin Reveals Plans To Put Chernobyl Back Into Commission

LD0606101992 Moscow ITAR-TASS World Service  
in Russian 1734 GMT 5 Jun 92

[By ITAR-TASS correspondent Yuriy Kozlov]



[Excerpt] Vienna, 5 Jun—The Ukrainian Government is examining the possibility of resuming operations at the Chernobyl nuclear electric power station. Specific agreements on this count have already been reached with the relevant firms in the Russian Federation. This was stated here today by Ukrainian Prime Minister Vitold Fokin, who is in Austria on a visit.

The head of the Ukrainian Government noted that the conclusion about the possible resumption of operations was made regarding the first and third blocks of the Chernobyl nuclear electric power station after careful checking of its technical condition. However, Fokin noted, as this conclusion by the experts runs counter to the decree adopted earlier by the republic's Council of Ministers on closing down the station, a definitive decision has not yet been made. If it takes place, then the nuclear electric power station will be back on line as early as the beginning of 1993.

Regarding the internal economic situation in the republic, Fokin stated that the Ukrainian economy cannot endure a third stage of price liberalization such as the one planned for Russia. In connection with this, he continued, the primary issue on the agenda is the introduction of Ukraine's own currency. [passage omitted]

## CAUCASUS/CENTRAL ASIA

### **Kazakhstan's Need for Future Nuclear Power Stations Supported**

92WN0525C Alma-Ata KAZAKHSTANSKAYA  
PRAVDA in Russian 18 Mar 92 p 1

[Article by Zh. Almashev: "Too Little Water in the Aral Sea Region: How Can It Be Used Wisely?"]

[Text] The ecological disaster in the Aral Sea region is not only a tragedy for Kyzyl-Orda and Aktyubinsk oblasts, it is also a tragedy for the entire Central Asian region. This is now a problem that concerns all of us. That was the topic of a detailed discussion at a recent meeting of the heads of water resource organizations in the Central Asian republics and Kazakhstan. We asked M. Ospanov, deputy chairman of the Republic of Kazakhstan State Committee for Water Resources, to talk about the outcome of the meeting:

"The present approach to use of land and water resources as something inexhaustible and unlimited has caused tremendous damage both to nature and to human beings. The past 30 years of virtually unrestricted growth of water consumption has been due to the performance of tasks imposed from above and to bureaucratic necessities and regional demand. At the present time, water resources in the Syr Darya and Amu Darya watersheds are completely exhausted. When a unified Union still existed, their water was distributed centrally on orders from the former USSR Ministry of Water Resources. Today, neither the Union nor its Ministry of Water Resources exists any longer, but the problems of water

resource use and distribution in the Aral Sea basin among the independent states located therein have remained."

"The heads of water resource organizations in the Central Asian republics and Kazakhstan gathered in Alma-Ata in order to develop unified fundamental approaches to joint management of the use and protection of water resources originating in sources shared between two or more states, and also in order to define a strategy and tactics for implementing water resource policy in the region."

"An interrepublic agreement approved at the meeting stresses that only through pooling of efforts and coordinations of actions will it be possible to foster favorable conditions for resolving social and economic problems or lessen the ecological tension which has arisen as a result of depletion of water resources. Joint efforts will be made to resolve the environmental problems connected with the disappearance of the Aral Sea as well as to balance the volumes of clean-water use permitted annually, based on the water flow in sources shared by two or more states.

### **'Nevada-Semipalatinsk' To Focus Future Efforts on Health Programs**

92WN0524A Alma-Ata KAZAKHSTANSKAYA  
PRAVDA in Russian 1 Apr 92 pp 2-3

[Interview with 'Nevada-Semipalatinsk' President Olzhas Suleymenov, by M. Ambartsumyan: "The Regeneration of the Land, and of Man"; date and place not given]

[Text] Olzhas SULEYMENOV: "We are for health: spiritual, moral and physical; that reason and goodness may prevail."

The words cited above are taken from the program of the well-known "Nevada-Semipalatinsk" movement. And these words and the title convey the essence of the movement's present activity since it achieved the first of its vital goals—closure of a test range.

"As long as other places exist on the planet where weapons of mass destruction are tested," says movement president Olzhas Omanovich Suleymanov, "we do not have the right to stop the struggle. The Earth is the cradle of mankind, his common and only home. No matter where the bombs are exploded, they threaten this home with degradation and ruin. The international aspect of our activity is still urgent."

[Correspondent] But after all, the "Regeneration of the Land and of Man" program is devoted to Kazakhstan.

[Suleymanov] Of course, the "domestic" and "foreign" activities of the movement have their own framework, but the supreme task inherent in the program is the same. We have not learned of the terrible consequences

of testing from scholarly articles. Death-dealing mushrooms have arisen on Kazakhstan's land; they have defiled our environment and have brought suffering to the people. Now we are obligated to do everything to save the environment and the people in the region next to the test range. Regeneration, in our conception, means primarily saving all living things.

The Radiation, Ecology and Health Problem Committee is engaged in a variety of practical matters. The committee consists of 15 expert councils headed by prominent scholars representing medicine, biophysics, biochemistry and other fields. A People's Health Fund has been established. The fund reports to the committee on its scientific and financial activity.

**[Correspondent]** If it is not a secret, where does the fund get its assets? In our times it is very hard to count upon generous personal donations, and the number of philanthropic organizations is growing.

**[Suleymanov]** The fund has wealthy and reliable sponsors and patrons. The most influential among them are the Kvarzt Gold Extraction Enterprise, the Kazzoloto [Kazakh Gold] Production Association, the Semipalatinsk Meat Combine, and the Tselinograd Cement Plant. In addition, we have business organizations which permit us to earn the necessary funds ourselves.

**[Correspondent]** "The People's Health" sounds broad and committed. What exactly is the fund concerned with, and in what does it invest its money?

**[Suleymanov]** The chief task is to support the restoration of health of the people who live on the territories adjacent to Semipalatinsk Test Range, and to improve their living conditions. The universal goals are embodied in the slogan: Pure Water, Pure Air, Pure Food and Purity of Human Relations.

You see, for two years now Kazakhstan's scientists, engineers and technicians have been cooperating with their Russian colleagues. "Kazmekhanobr" [Kazakhstan Scientific Research Institute for Mechanical Treatment of Commercial Minerals] and "Biospektr" (St. Petersburg) are developing faucet attachments with filters to trap salts of heavy metals and biological impurities. In the near future it is planned to test experimental models in Kzyl-Orda Oblast. Installations are envisaged for apartments, and larger ones for hospitals, hotels and so on. Industrial production is to begin soon. The purified water will deliver thousands of people from infectious diseases and hepatitis.

One of the most serious problems is the need to achieve ecologically-pure agricultural products. The Human and Animal Physiology Department at Kazakh State University, under the leadership of Professor V. Inyushin, has invented laser agrotechnical devices, owing to which the influences of pesticides and toxic elements in nitrogen fertilizers harmful to human health are completely eliminated. Laser treatment of grain crops and vegetables promotes higher yields as well. Devices manufactured at

the Biofizika Association have already found practical use, but it is necessary to introduce them on the farms of other oblasts, specifically, Semipalatinsk, Karaganda and Pavlodar.

As far as the air is concerned, in the future there will be massive use of devices for scrubbing exhaust gasses. Our engineers are developing a project for scrubber catalysts, the creation of which will not require precious metals. Engine power will be reduced somewhat, and then vehicles will not poison the air. I recently visited Japan and, I must admit, was envious of how persistently measures of this type are implemented there. Tokyo is now the cleanest capital in the world.

**[Correspondent]** In time the ecological programs will probably be implemented. And we will at least be relieved of new disasters, having closed the test range. But for a long time people will continue to suffer the tragic consequences of 40 years of testing. Do you have confidence in the capabilities of our medicine, our health care?

**[Suleymanov]** Our medical service is so backward that it is hard to be an optimist. I am not speaking about the healing arts, nor of the knowledge of our scientists. There is a considerable number of splendid doctors, brilliant minds and truly selfless specialists. But we are depressingly poor. And it is no consolation that the health-care budget has been doubled. Under inflationary conditions it should be increased tenfold, a hundredfold. The principle of residual financing of this system remains unscathed.

Not only radiation, but also other factors in the environment and poorly organized socio-domestic facilities have ruined and continue to ruin the people's health. The population of practically all regions needs help, and especially those living in the ecological disaster zone.

**[Correspondent]** Impressive programs are being drawn up, but meanwhile the things that are most necessary, without which medicine is helpless, are disappearing...

**[Suleymanov]** I have visited 60 countries in the world. Everywhere I go I try to visit hospitals and pharmaceutical plants and I can make comparisons. To whose benefit the comparison is—you know yourself. I am simply embarrassed to have to bring back medicines from my business trips, by the box, by the suitcase. But when you think about our sick people, then you have to swallow your pride. It is necessary to bring them back, and that is what I do.

Not long ago I was treated in a so-called sovmin [council of ministers] hospital (Officially it has another name, but it stuck more firmly than the other appellation). I ask the chief physician how many infusion solutions there now are in the hospital. "Four flasks," he replies. Four! And this in a hospital which is supposed to be better supplied. Then what can it be like in the others? A rural hospital, for example, in an isolated area?

**[Correspondent]** As a medical student I can open the brackets [sic]: infusion solutions are various kinds of blood substitutes, saline solutions, hemolysis and other liquids, which are absolutely vital when administering emergency medical aid.

**[Suleymanov]** It is easy to understand the doctors' feelings when they must save a patient, but there is no medicine. Who would want to be in their shoes? I made a special flight to Sweden, and familiarized myself with the plants where they produce infusion solutions. The total area of such a plant is only 200 square meters in all. Three persons work there, and they produce 10 million flasks a year, with two-shift operation.

Then I asked our Ministry of Health to give me the annual requirement for them. The response: 37.5 million flasks. That means we must have four plants.

The Government of Kazakhstan has an understanding attitude toward this problem. But thus far monies have been allocated for only one such plant. Our minister, A. Amanbayev, paid a visit to Sweden, where they reached agreement on this question. Hopefully, we shall soon have our own ready-made production here. And the same goes for solid medicines. Using the prestige of our movement, we shall "hammer out" plants of this sort, by getting the major philanthropic funds involved.

The unprecedented shortage of medicines is largely due to the disruption of economic ties with the republics of the former Union. Therefore, it is reassuring that our Ministry of Health intends to restore these ties at least in part, especially with Russia where 70 percent of all the pharmaceutical plants are located. It was not for nothing, I must believe, that our Kazfarmbioprom [Kazakh Pharmaceutical and Biological Industry] concern was formed.

**[Correspondent]** As far as I know, your People's Health Fund also envisages eliminating danger associated with meat consumption. After all, part of the herd has been smitten with disease.

**[Suleymanov]** This is a problem of continual concern. During the lambing season I watched how they take a new-born lamb and breathe into its mouth in order to extend the lungs, so that it might take its first breath. And if the lamb has tuberculosis or brucellosis? You see these diseases are, most unfortunately, very widespread among our animals.

In the very beginning of the 1980's I raised this question and it was discussed at a session of the Council of Ministers. There were even proposals to completely replace the herds in the northern oblasts. But that is impossible. And even if a new Dutch variety [Golland-skaya burenka] were shipped to us, they would become infected in the concrete cattle sheds and would become ill. Therefore, we went to institutes in the Far East, where they are doing some very interesting work with silver fir needles. There, they produce a superlative kind of meal made from fir needles, which they use to treat tuberculosis in large horned cattle. If we were to set up two or

three such plants on our territory, I believe we could solve the problem of treating our livestock. Yet I am offended to the depths of my soul, that these needles are being burned by the millions of tons at Siberian meal plants. And you see, in terms of nutrition, every ton of such feed is equal to three-and-a-half tons of ordinary feed, apart from the medicinal effect.

**[Correspondent]** You are a poet and a public figure, but since circumstances have caused you to delve so deeply into the problems of medicine, I have decided to ask you: what do you see as "first aid" for our health-care system?

**[Suleymanov]** It seems to me it would be sensible to put up for lease many of the medical institutions which are not capable of maintaining any kind of material base whatsoever because of their poverty. We must boldly introduce cost-accounting [khozraschet] relationships, and set up small enterprises which would permit providing higher-quality medicinal services on the basis of their own capabilities.

**[Correspondent]** It would appear that a similar decision would be acceptable for financing medical services for every citizen, as they do in all civilized countries, and not just a hospital bed and medical duties, as with us. Why has this problem not found a sensible solution to this day?

**[Suleymanov]** Recently I was able to attend a board meeting at the Health Ministry. One of the presentations at the meeting caught my attention. "After the Union broke up," said Academician M. Aliyev, "a significant amount of property was left, which was acquired by the people on Communist Subbotniks and on the basis of assets allocated from the budget of former union republics. This includes both facilities and costly medical equipment. But when our patients appeal for help at many medical centers situated on Russian territory, they are forced to pay considerable sums. For example, an operation involving the use of an artificial blood-circulation machine costs from 20-25 thousand rubles. Valves used to repair various kinds of heart disease cost 3.5 thousand rubles. In Moscow, a kidney transplant costs 20 thousand rubles."

The civil rights of our patients must be carefully protected, and this question must be urgently brought before the Cabinet of Ministers and the President. An interparliamentary agreement must be reached on quotas for free treatment of our sick people not only in Russia but also in other neighboring republics as well. Incidentally, last year alone, the Scientific Research Institute for Clinical and Experimental Surgery performed operations on about 90 patients free of charge.

I completely share the dissatisfaction with the mass "offensive" of healers on nearly every corner, who are offering to heal one and all of anything, with proper compensation. They are parasites, who feed on our economic instability and our misfortune. I do not deny that there are gifted people, whom divine providence has given the ability to help others. But there are not all that many geniuses. There are psychotherapists, psychic

healers [ekstrasensy], bioenergy surgeons [bioener-gokhirurgi]—whatever names and titles you can think of. It would not be so bad if they took people's money, even if they did no good, so long as they did them no harm. But without special licenses, this kind of activity is, I know, forbidden.

**[Correspondent] Olzhas Omarovich, not long ago one of the readers of KAZAKHSTANSKAYA PRAVDA declared his love for your poetry and expressed his regret that you have abandoned it for the sake of "transitory politics."**

**[Suleymanov] I am grateful to the reader for his comments. If by some miracle the harmful traces of radiation across the vast expanse of several oblasts were to suddenly disappear, if peace and prosperity reigned everywhere in the world, I give you my word that I would abandon these "transitory politics." Until then, though, it is necessary to work on behalf of protecting my readers from real dangers.**

**[Correspondent] I would like to return to our conversation. You mentioned in passing the purity of human relations as one of the main factors of the Regeneration of the Land and of Man program. But that is no longer medicine...**

**[Suleymanov] How can I put it... Both the souls and the minds of the people must be healed, developed, and liberated from the imbedded slavery of the past. Conflicts bear in them a destructive power which, I am convinced, exceeds the power of any weapon. Without harmony in human relations, one cannot have harmony between man and the environment. We stand for peace and harmony, for respect for the civic and national dignity of the individual; for spiritual, moral and physical health; that reason and goodness may prevail.**

#### **Semipalatinsk Nuclear Test Range Information Declassified**

*PM2205131592 Moscow IZVESTIYA in Russian  
20 May 92 Morning Edition p 7*

**[Report by Oleg Stefashin: "Information on Semipalatinsk Test Range Declassified"]**

**[Text] The Kazakhstan Cabinet of Ministers has declassified all materials containing information about the results of nuclear tests at the Semipalatinsk range.**

So far they have been kept in "secret" departments and only a very restricted range of people could use them. Now access to secret information is available to almost anyone interested in it.

It is quite obvious that this openness will finally make it possible not only to lift the last shrouds of secrecy surrounding the test range but will also be of serious assistance to physicians and scientists who are undertaking research in the zone of the radiological calamity.

The cabinet of ministers has made one more important decision—to prepare a comprehensive program for the

study of the area adjacent to the nuclear test range and also of the people living there. It has already been stated that this entire enormous territory, including Semipalatinsk Oblast and a number of rayons of Karaganda, Pavlodar, and East Kazakhstan oblasts, will be declared an ecological disaster zone and its population will receive the status of victims.

It is expected that the government will also take a number of other measures.

#### **Twenty-Six Nuclear Testing Sites in Kazakhstan Reported**

*LD2305215292 Moscow Radio Rossii Network  
in Russian 1600 GMT 23 May 92*

**[Text] Apart from the Semipalatinsk testing ground, nuclear explosions were carried out at 25 other sites in Kazakhstan, Sergey Medvedev, republican minister of ecology and biological resources, has said. He also said that top secret information on the actual state of radiation pollution is to be made public in Semipalatinsk, the NEGA agency reported.**

#### **Radiation Detected at Kazakhstan's Former Nuclear Testing Grounds**

*LD2905113492 Moscow ITAR-TASS World Service  
in Russian 2308 GMT 28 May 92*

**[By KAZTAG correspondent Karibek Yermukhanov for ITAR-TASS]**

**[Text] Atyrau, 28 May—Research carried out by St. Petersburg scientists at the sites of the oblast's former military testing ranges alarmed the region's population in earnest. Carried out at the behest of local authorities, results indicate that weapons testing and missile launches in the Azgir and Taysoygan sands have left their ecological mark. High rates of child mortality and allergic illnesses are found among the local population. A third of the wells used by animals contain water unsuitable for drinking. This explains why nearly all antelopes that have been trapped have turned out to be blind. Moreover, radiation leaks can be observed from a number of underground voids which were formed during the course of military testing. Although scientists continue to gather data and intend to analyze their conclusions carefully, there are already reasons to suspect that the testing ranges which have been returned to the republic are not very viable.**

#### **Water Resource Organizations Pledge Joint Aral Efforts**

*92WN0525B Alma-Ata KAZAKHSTANSKAYA  
PRAVDA in Russian 18 Mar 92 p 1*

**[Article by N. Nikolayev, KAZAKHSTANSKAYA PRAVDA staff correspondent reporting from Dzhezkazgan: "Nuclear Passions Over Nothing; or, The Chernobyl Syndrome in Dzhezkazgan"]**



[Text] During a visit to Dzhezkazgan President N. Nazarbayev said that over the long term we must not reject the construction of nuclear power plants. Even though they live on islands with a high level of seismic activity, the Japanese obtain 45 percent of all their electric power from nuclear power plants. In France, this figure is 80 percent. Moreover, Kazakhstan is the world's largest producer of uranium. The President made special note of underground nuclear power stations, which are reliably protected and are the cleanest from an environmental standpoint. He cited an underground plant in Nizhniy Novgorod and said that consultations with scientists are underway in regard to these matters.

However, in Dzhezkazgan this unleashed a storm of emotions. Some public movements hastened to publicly proclaim their fundamental opposition, citing Chernobyl and the Semipalatinsk testing grounds, the unreliability of local construction organizations, and even the poor food supply, as a result of which the population allegedly could not tolerate living near a nuclear facility. Their main argument was this: we are opposed because we are opposed.

These opposition games have essentially sprung up over nothing, as experts have not even submitted a preliminary finding on the construction of a nuclear power plant, though experts do favor that in principle. They are perfectly well aware that oil and coal will not last long and that the South Kazakhstan State Regional Electric Power Station now under construction on the shore of Lake Balkhash will consume millions of metric tons of coal and will scatter the ground and water with ash and dust and poison the air with gases. The construction of an urgently needed boiler plant in Dzhezkazgan will cost hundreds of millions of rubles and will also use up scarce coal resources. Furthermore, there are already huge underground chambers available here, the remains of ore mining operations...

In any case, Kazakhstan cannot achieve the level of the developed countries in the near future without nuclear power. What we should be talking about is not whether or not to build in principle, but instead absolute reliability and guaranteed safety in the operations of the future power plant. That is, this is not an issue for politics and rallies, but rather a purely technical matter.

#### Alternatives for Saving Aral Sea Considered

92WN0525A Alma-Ata BIRLESU in Russian  
No 15, 1992, p 2

[Article by V. Ganzha: "How Can the Aral Sea Be Helped?"]

[Text] Interpretation of the latest satellite photographs has led ecologists to this disquieting conclusion: the Aral Sea continues to evaporate. It has already split into two bodies of water, the Lesser Aral and the Greater Aral, connected by a narrow strait. And over a period of only a few decades the water level of this huge inland sea, which is dying as a result of human actions, has fallen by

15 meters. As a result, the natural and climatic conditions in the region, which includes a large portion of the territory of Kazakhstan, Uzbekistan, and Turkmenia, have worsened markedly. Water is needed to save the Aral Sea, a lot of water. The only question is, where to get it?

"Until recently, everyone pinned their hopes on the great Siberian rivers," said Zhurmbek Sydykov, a prominent Kazakh specialist in the field of water-related problems and a member of the national Academy of Sciences. "Unfortunately, redirecting a portion of their flow could cause a number of complications, both economic and environmental in nature. Therefore, a large-scale operation of that type is scarcely likely within the foreseeable future. That is why an initiative group of scientists in Alma-Ata is presently searching for alternative means of saving the disappearing sea. Several options have already been proposed, all centering on one general idea: bringing water to the Aral Sea from the Caspian Sea, the level of which has risen by two meters in recent years."

Continuing, the scientist acquainted me with several of the options. One scenario proposes the building of a canal across Uzbekistan and Turkmenia. However, that would require raising the Caspian Sea water by over 200 meters. There is another plan which is even more difficult: it envisions transferring the water with the aid of the Amu Darya valley, through which that great Central Asian river once flowed into the Caspian Sea. In that case, the length of the new waterway would be almost 1500 kilometers. But that is not the main shortcoming of this scenario. There is something even worse: after entering the present-day Amu Darya, the Caspian water would become mixed with runoff from a multitude of cotton fields, runoff which is highly polluted with toxic chemical substances. This could very adversely affect the fauna of the restored Aral Sea.

In the opinion of Zh. Sydykov and those who share his ideas, the most acceptable option is the plan for a Caspian-Aral canal running exclusively through the territory of Kazakhstan. It would be the shortest, something on the order of 450 kilometers. Along that route, the water would only have to be raised 130-135 meters. Once again, there is a factor which plays a very significant role: in this option, the Caspian Sea water would be collected in the northern part of the Sea, where it is not very salty. As is well known, in times past the Aral Sea had a level of salinity substantially lower than that of the Caspian Sea.

When discussing the tragedy of the Aral Sea, there is also good reason to note the following disaster which now poses a real threat to the entire Caspian Sea region. What is at issue is the rise in the Caspian Sea level, which has persisted for a number of years now. That process has already resulted in the flooding of several oil production facilities on the Mangyshlak Peninsula, as well as towns in Guryev Oblast, Azerbaijan and Dagestan. It is not surprising that our republic's Cabinet of Ministers has allocated R100 million [rubles] for efforts to protect



industrial and civil facilities from the waves of the encroaching Caspian Sea. Even greater expenditures for similar purposes lie ahead. And here is why.

The problem is that scientists in Alma-Ata have discovered this connection between the Caspian Sea and the Aral Sea: soon after the latter began disappearing, the former began rising. A perfectly logical question presents itself: how long will the Caspian Sea's encroachment on dry land, something for which the state budget must pay huge sums, continue?

Robert Kurmangaliyev, a doctor of geological and mineralogical sciences, and a laboratory head at the Institute of Hydrogeology and Hydrophysics, has come up with a very disquieting answer. He has studied the problem from the standpoint of the underlying correlation of the areas of dry land, seas, and oceans across the entire planet. According to his figures, his research gives reason to believe that the flooding along the coastline of the Caspian Basin will continue as long as the Aral Sea continues to dry up. That conclusion is based on a scientific hypothesis put forward by V. I. Vernadskiy and A. S. Romye. According to that hypothesis, the correlation between the surface areas of the two basins must remain approximately equal. The researcher emphasizes that the primary reason for ecological disruption in both basins is disruption of the gravitational equilibrium in the intracontinental region of Eurasia, something which is directly linked to the marked reduction in the volume of the Aral Sea. Meanwhile our planet, due to its rotation around its axis, strives to restore the balance. It was because of this, asserts R. Kurmangaliyev, that we have seen the beginning or regional changes in the earth's crust and climate; these changes should be considered a reaction by the largest inland body of water in the world to the ongoing degradation of the Aral Sea.

That is why it is essential that we save the vanishing sea as quickly as possible and thereby prevent further flooding of agricultural land, port facilities, and population centers within the expansive Caspian Depression. That is to say, begin building a Caspian-Aral canal. According to preliminary estimates, the construction thereof will cost less than the many kilometers of sandbag dikes and other protective structures barring the path of the encroaching Caspian waves. It will yield a dual benefit: The levels of both inland seas will normalize and the environmental situation in the Aral Sea region, where serious damage has already been done to agricultural oases, pastures, the fishing industry, and public health, will improve.

Practical realization of the option is hampered by the fact that the Caspian Sea lies lower than the Aral Sea, and that transportation of water through the future canal will require a great deal of electricity. True, physicists from the national Academy of Sciences are proposing that that electricity be generated by creating a network of solar electric power stations. Along the possible canal route the sun shines an average of 300 days a year, and there are many arid regions unsuitable for agriculture in

that area which could serve as sites for converting this free solar energy into electricity.

It is quite clear that, due to the present difficulty of the economic situation, Kazakhstan alone is hardly in a position to solve the problem of stabilizing the two seas within the foreseeable future. However, time will not wait, and this problem must be dealt with by all the states that have a vital stake in an ecologically stable situation, both around the Caspian Sea and in the Aral Sea region. The initiators of this project should be the state structures of our republic, the population of which has felt the full force of environmental disasters.

## BALTIC STATES

### Latvia's Representatives Sign Strasbourg Environmental Declaration

*LD2905120592 Riga Radio Riga Network in Latvian  
0430 GMT 28 May 92*

[Text] Latvian Environmental Commission representatives, together with European parliamentary delegations, have signed the Strasbourg declaration on environmental protection. This was announced at a news conference by Olegs Batarevskis, leader of the Latvian delegation and chairman of the Latvian Supreme Council Environment Protection Commission, after their return from a conference organized by the European Parliament and the organization Globe EC, entitled "The Common Garden of Europe," which took place in Strasbourg from 17 to 20 May. At this conference several issues were discussed, including nature conservation, agriculture, drinking water, energy, waste processing, and the global climate. The participants in the conference agreed that it is necessary to establish an ecological tax for users of energy resources.

### Ignalina Nuclear Plant Incident Prompts Look at Computer Control

*92UN1474A Moscow LITERATURNAYA GAZETA  
in Russian No 23, 3 Jun 92 p 12*

[Article by correspondent Tatyana Yasinskaya: "Saboteur Savchuk: Encroaching Upon the Safety of the Ignalina Nuclear Power Plant?"]

[Text] Here is what basically happened. In late January of this year Oleg Savchuk, a programmer for the Ignalina Nuclear Power Plant who allegedly interfered in some particular way with the computers controlling the work of the reactors, was "nabbed with a smoking gun." Savchuk was immediately fired on the basis of the conclusions of an official investigation carried out by the station's workers. "For exceeding official powers," read the conclusions. And a couple of days later the police, who announced an indictment of premeditated sabotage and searched the suspect's apartment, took Oleg to prison.

That's where he's been since then. He has not admitted his guilt. The maximum time of preliminary confinement has expired, but the investigation into the case has not yet ended.

Now about the "malefactor." Oleg Savchuk came to the plant 10 years ago. The young, talented programmer was lucky enough to be at the inception of an important project. They were creating the "brain" of the plant—the first information and computer system, with unique attributes. The Titan ICS. During those times they were at the plant literally night and day. Titan, which had been conceived and developed by "egg-heads" in high-security institutes, exhibited so many "rough spots" here locally that in the unanimous opinion of the programmers it was like rough-cut boards. Each board still had to be planed smooth and fitted to the specific intermingling of peculiarities and numerous imperfections of the nuclear power plant itself.

But in the way things happen so often in our country, the cart was put before the horse: The ICS was put into operation 3 years after the nuclear power plant was itself put on line. Is it any surprise, then, that since that time the system, which consists of approximately 90 computers, has been undergoing continual modification, and that the list of defects discovered in it is still being added to today?

In the beginning, everyone fought together, step by step, for Titan: It was their brain-child, carried through many sleepless nights of suffering and delivered at the price of truly titanic exertion of mind and will (while it was far from the most sophisticated, they did manage to create the best system in the Union!): "We will not sign off on it until these certain things are finished." In the meantime the management was applying the usual pressure: "Come on, let's go! Let's sign off on it, and then later—honest!—we'll get the bugs out...."

Those who couldn't resist finally signed the papers. Others refused to give up, and left. For another department, or away from the plant altogether. Savchuk alone stuck like glue, continually working on the same old "rough spots" still in Titan. Realizing that it would be impossible to pry this eccentric away, the management simply whited out his name from the relevant pages of the sign-off document.

Investigating the causes of recurring failures of the system or finding still more weak spots in it, Oleg—sometimes alone, sometimes with coworkers—passed highly detailed official memoranda "upstairs" with proposals on what to fix or replace. The management accepted the papers, occasionally with words of gratefulness spoken through grit teeth, but didn't do a darn thing. Oleg wrote more memos and addressed them to the next higher rung. And so, persistently, rung by rung, up to the plant director, and even the State Nuclear Power Inspection Agency. He climbed this ladder ten to twenty times a year, as we now have learned.

There was one other means of attaining introduction of the urgent developments. On becoming persuaded that the management was reluctant to take responsibility for anything, the programmers illegally tested their innovations, and if they worked, they presented them as finished results. Approvingly or reluctantly depending on the scale of the success, the management sanctioned the now fully tested actions with its lofty signature. Without tiring the reader with the technical details, let me say simply that Titan was enriched many times over in this fashion.

"With time, computers require more and more repairs," explained programmer Andrey Zuyev, an associate. "But no one has been using or manufacturing such computers anywhere in the world for the past 20 years. Could the obsolete computers be replaced by new ones? I wouldn't attempt to even start doing so for less than \$3 million. I already added it up. But judging from world experience, in principle plants such as ours shouldn't be operating. And the Leningrad Nuclear Power Plant is in an even worse state. I know that for a fact, not just from rumor..."

There were few who could rival Savchuk in his knowledge of all of the system's flaws—one way or another he personally developed many of its important units. And although by general admission he was never communicative or "sociable," people raved about his work. The "quiet genius" was what they called him behind his back. Being naive, he never suspected what his zeal would cost him. It was precisely the highly detailed, almost daily notes from Savchuk regarding all of the problems, failures and turns in the life of Titan—these meticulously pondered and carefully preserved diaries—that became practically the only (!) documents in the hands of his accusers, incriminating him—Savchuk—in many years (!!!) of sabotage....

This would be a good time to recall that the Ministry of Medium Machine Building, the now-abolished "chief" of the country's nuclear enterprise, had sprung forth from Beria's infamous domain. It gloried in it closed cities, including those near nuclear power plants. Like Sneckus at the Ignalina Nuclear Power Plant, like Chernobyl's Pripyat, like Sosnovyy Bor at Petersburg, and a dozen others. These are extremely well-provided towns of thousands of inhabitants, but usually behind barbed wire and a ring of ever-watchful security. Here people do not have their names on waiting lists for housing for decades, and they do not roam the stores in the vain hope of finding something to buy. There is always much more food available here, the industrial goods are better, the homes are more spacious, the hospitals are cleaner, etc. "It's almost like living abroad," boast the closed-city citizens. And the barbed wire—well, it's not all that bad, depending on the side from which you look at it: It keeps the competition for the sausage out. And the closest relatives do have the occasional opportunity to visit for a week by special permit. In short, paradise behind barbed wire. And this "paradise" is usually ruled by

some local prince representing the medium machine-building ministry. Not at all a place for democracy, dissidence or principles of any kind!

"I am absolutely certain," said Anatoliy Ogiyenko, who worked many long years in the nuclear safety department of the Ignalina Nuclear Power Plant, "that had an operator at that block control panel of the Chernobyl Nuclear Power Plant said 'no' to that chief engineer or chief who gave the wrong instructions, the Chernobyl disaster might never have occurred, but doubtlessly the operator would have suffered—up to the point of dismissal. And if he loses his place in a closed city such as this, where is he to go from here? And so when you get right down to it, it's better to keep your mouth shut."

But not all kept their mouth shut. "Popular disturbances" have arisen about every half year in the last several years in that same brain center of the Ignalina plant, where almost all of the computer equipment is concentrated. Meetings, group petitions submitted "upstairs" demanded removal of the immediate supervisor of the computer operation—shop assistant chief A. Myshko. Upon investigating the conflict, again and again the management promised on a stack of bibles to fire Myshko, but he stayed on as if nothing ever happened. Moreover he had more than enough ways at his disposal to put the screws to the instigators of the disturbances.

Zuyev left the plant, and so did some other friends and associates. By May of last year Savchuk was left at his work station in complete professional, intellectual and social isolation. And when a nervous rash spread over the face and arms of this physically fit, athletic individual, when he forgot about all of his former diverse interests and hobbies, and focused himself completely on one subject—Titan and Myshko, he was given some advice by his close friend Anatoliy Ogiyenko: "Get away from here fast. None of this is going to end well." He could see the handwriting on the wall....

A tumultuous transition to the marketplace began at the Ignalina Nuclear Power Plant as everywhere else in the country. Before the programmers could gather their wits people began selling their inventions right and left behind their backs—inventions that had been moved with so much difficulty along the lawful path of realization. The computer programmers tried to stand up for their rights, but without success. The leader of this "untamed capitalism" was, of course, Myshko. And dozens of people took part in it, including the current plant director, K. Khromchenko. Only Savchuk and some other uncooperative souls were excluded from the business—they were a little too obstinate.

Of course the instigators of the "Savchuk case" had not expected a commotion to arise about it. Hadn't the same method been used many times before to get rid of such people from the station? However, by the end of January, changes at the nuclear power plant overtook the market games. The Lithuanian National Security Service took the

plant under its care, replacing the vanquished KGB. And it would have been sinful to miss this chance for distinguishing itself in its new pursuit. Government dispatches began flying, handcuffs clicked, and the long-forgotten word "saboteur" flashed through the newspapers.

"I learned what happened from the morning newspapers," Lithuanian Republic Minister of Energy Lyaonas Ashmantas sympathized. "Many injustices had already occurred in the Ignalina story, and unfortunately this was not the first case of the government's gross, incompetent interference in the affairs of the energy department, which is working feverishly to set things straight even without such interference."

It was just yesterday that members of Lithuania's Green Party lay down side by side around the station, picketing the entrances and exits and accusing nuclear power plant workers of trying to do no less than "destroy the nation." "As if they can't see that these people, who are working selflessly with far from perfect equipment, are risking their heads and the lives of their own children," Algirdas Stumbras, the chief engineer of Litenergo, elaborated on this issue that just won't go away. "They should be thanked, and supported in every way possible. Especially now that Lithuania is left with only one product that meets world standards. It isn't meat, or cheese, or television sets—it's electric power!"

With the restoration of the Lithuanian state, many of the inhabitants of Sneckus, hurt by the wrongful accusations of certain national-radicals, would have eagerly gone back to Russia. "We were prepared to build housing anywhere in Russia for those who would leave," said L. Ashmantas, "as long as they moved quietly and honorably. We didn't want to hurt anyone. But things didn't turn out right. The motherland began its program of conversion, it began shutting down operating facilities and halting construction of new ones, and it no longer needed so many specialists. Such that the upshot is that the responsibility for taking care of them, for integrating them into our state—the overwhelming majority of the nuclear power plant workers had become full-fledged citizens of Lithuania—fell entirely upon us. And then to make things worse, there was this campaign around Savchuk."

The examining magistrate threw out the first independent expert examination of the Savchuk case on the grounds that the experts knew Savchuk personally. But this was quite natural: Specialists of this level in all of the former USSR could be counted on the fingers of your hands. How were they not to know one another?!

When his wife (also a programmer by the way, who never was allowed to see the case file) asked how long they were intending to keep the accused confined, the examining magistrate answered shortly: "Until he confesses." Savchuk was assured of the same thing. The dialogue with him goes something like this:

"Do you confess your guilt?"

"No."

"Are these your papers?" (They show him the archives.)

"Yes."

"But you keep saying you're innocent nonetheless. Go sit down and think about it some more."

Thank God that the "Russian card" hasn't been played yet in any way in this matter. As it turns out, no matter how competent the investigation into the nuclear computer cases might have been—unfortunately specialists are being denied any assistance for the moment—it is obvious that any of Savchuk's associates might have been in his place. What was more vulnerable was not the person himself but the place to which he applied his effort. Anyone could have lost equilibrium here. Oleg just happened to be the one. Such that besides concern for his fate, there are questions that are broader and deeper than those of the individual. We cannot avoid the principal object of concern, one which revealed itself so fully in this story: What is the place of the individual in this explosive field of nuclear power engineering?

The "tamers of the atom" have a vital need for tranquility and equilibrium as the conditions of maximum concentration. That's not a whim—it's something akin to the categorical "Silence! Surgery in progress!" On the other hand, deliberately exerting psychological pressure, and interfering hastily and incompetently in such an extremely complex field is out-and-out suicide. In the Chernobyl version, as I remember, the defendants also included "extremists," elevated to the rank of something close to malefactors.

There is one other guarantee of our common, universally desired safety: the right to a kind of intellectual opposition, the definite legal right of enquiry, and paradoxical as this may seem, the right to make mistakes. After all, if we were to approach the incident at the Ignalina Nuclear Power Plant from a purely technical point of view, then Oleg should have been joined in prison by several dozen other people who were forced, more than once and out of extreme necessity—due to a breakdown or a non-standard situation—to opt for the riskiest experiments. Yes, not always successful. And how would you go about testing new developments, finding alternative solutions, working, and experimenting? By the way, the Titan ICS possesses triple redundancy, which makes it possible to conduct research without danger to the primary system. If we could only restructure or, more precisely, reorient the administrative system in this way to the interests of living people, to respect for their honor and worth, to trust in their knowledge and abilities.... In short, so that

it wouldn't suffer a paranoid fear of saboteurs concealing atomic nuclei on their persons.

#### Minister Examines Lithuania's Options for Storage of Spent Nuclear Fuel

LD0406101492 Vilnius Radio Vilnius Network  
in Lithuanian 1300 GMT 3 Jun 92

[Interview with Leonas Asmantas, Lithuanian minister of power engineering, by Saulius Liauksminas; place and date not given—recorded]

[Excerpt] [Liauksminas] *Mr. Minister, the first item on the agenda to be discussed at today's session of the Lithuanian Government concerns the construction of a depository for spent nuclear fuel from the Ignalina AES [nuclear electric power station]. How important is this question and how did it happen that it is first on the agenda?*

[Asmantas] I think it is purely accidental that it is first on the agenda. Of course, it is better to have this question solved earlier rather than later. The question has come to the fore before, in the sense that the spent nuclear fuel is not being taken away anywhere. I think the people of Lithuania are aware of this. So far nothing has been taken away from Ignalina; it is being stored in the same building. The depository for the first reactor will be full by April 1994 and we will have no place to deposit the spent fuel.

As you know, the spent fuel is stored there for more than 10 years. After 10 years, it has to be moved to another depository. There is no point in extending the already existing depositories inside the building, nor is it sensible from the technological point of view. Therefore, there must be a decision to build a new depository so we can operate the nuclear power station.

Of course, it could be said that negotiations should be held with the suppliers of the fuel, asking them to take the spent fuel away. Perhaps this was being done at some time, but at that time there was a general policy that such a depository would be built in the Union for the RBMK [high-power pressure-tube reactor] waste products or, speaking more precisely, for the spent nuclear fuel. The Russian Ministry of Nuclear Power Engineering, however, adopted the decision that power stations with RBMK will take care of their own storage because it was not economically viable to process this fuel. So as we see, the situation has entirely changed. Therefore, we ourselves must look for options to store the spent fuel. [passage omitted]



## GERMANY

**University Develops Laser-Based Plant Stress Gauge***92MI0440A Bonn DIE WELT in German  
4 Apr 92 p 20*

[Text] Plants, too, suffer from "stress factors" such as heat, drought, or pollutants. Before damage becomes visible, plants reduce their rate of photosynthesis. These invisible changes can be measured with a picosecond fluorimeter developed at Oldenburg University. It can be used in the field, so that the state of health of plants can be documented in situ. The core of the instrument is a diode laser that irradiates a small leaf section with extremely brief light flashes lasting just a few picoseconds (billionths of a second) via optical fibers. The light energy is picked up by the green leaf coloring matter, chlorophyll, and then relayed in three directions: Most of it is used for photosynthesis, some is radiated as heat, and the rest is reflected as fluorescent light. The latter is absorbed by the sensor head of the apparatus, and fed along a second optical fiber to a photon meter and an online personal computer for analysis. With healthy plants the fluorescent signal fades out after 300 to 600 picoseconds. However, when photosynthesis has been deactivated, the leaf continues to emit fluorescence for some 2,000 picoseconds. Signals lasting between 600 and 2,000 picoseconds indicate a damaged plant. With a complete measuring cycle comprising several million individual measurements, the fluorimeter produces a measurement curve of the fall-off in fluorescence. During this procedure the diode laser emits 500,000 light flashes per second.

**Toepfer Announces Increase of Money to Global Environment Fund***AU0206110592 Munich SUEDEDEUTSCHE ZEITUNG  
in German 27-28 May 92 p 7*

["free" report: "FRG Government Pays More for the Environment"]

[Text] Bonn—The FRG Government is willing to triple its share in the Global Environment Fund of the World Bank from currently DM250 million to DM750 million, as FRG Environment Minister Toepfer (Christian Democratic Union) announced on Tuesday [26 May] in Bonn at the presentation of the German guidelines for the negotiations at the environment and development conference in Rio de Janeiro. The fund is supposed to finance international environmental protection conventions; these include, apart from the already existing convention on the protection of the ozone layer, the two conventions on climate protection and on the protection of the variety of species, which are to be adopted in Rio. At the moment DM2.2 billion have been allocated to the Environment Fund, which has a term of three years. The industrialized countries are thinking of tripling this amount.

On Wednesday the Cabinet approved the climate convention and the convention on the variety of species. It is the goal of the convention on the variety of species to ensure the protection of species of animals and plants and their habitats in the developing countries all over the world. The Third World demands a comprehensive transfer of technology to protect the species. In particular they want free access to patents and to the findings of biotechnology. As a result, the United States, Great Britain, and France still have reservations over signing the draft convention. The FRG Government intends to try to make the partners initial the convention, Toepfer said.

Toepfer stated that the "essential weakness" of the draft for a climate protection convention is the fact that it does not contain any specific dates and amounts for reducing the emission of gases that produce the greenhouse effect. However, by clearly setting down a subsequent process, the convention could be a first step for further specific measures against the greenhouse effect. In Rio Toepfer wants to work toward having as many states as possible sign the draft and for having the convention then ratified as quickly as possible.

The environment minister admitted that the EC will not go to Brazil with a unified line for negotiations. First, the introduction of an EC-wide climate tax, which has been suggested by the EC Commission with some reservations and is rejected by the southern EC members, is disputed, and second, there are still differences in opinion about setting down the goal of using 0.7 percent of the gross national product—which is twice as much as so far—for development aid. Bonn, too, does not want to commit itself on this issue, but simply advocates achieving this goal "as quickly as possible."

The Social Democratic Party of Germany is asking the government in a grand inquiry how it intends to achieve its repeatedly confirmed goal of reducing the emission of carbon dioxide by 25 to 30 percent by the year 2005. Climate protection requires deeds instead of grand words, it says.

## UNITED KINGDOM

**Survey Finds 'Substantial' Deterioration of Estuaries****Contradicts Previous Government View***92WN0515A London THE DAILY TELEGRAPH  
in English 29 Apr 92 p 7*

[Article by Robert Reid]

[Text] Britain's estuaries and the millions of internationally important waders and water-fowl they support have suffered substantial environmental deterioration since 1988, according to a survey released yesterday.



The study of 126 estuaries by the Royal Society for the Protection of Birds [RSPB] shows that a third more than four years ago face the danger of serious, permanent damage—57 compared with 43.

Marina developments, land reclamation, port expansion and pollution are identified as the commonest threats of irreversible harm, but other factors affecting birdlife include recreational pressures, bait digging and cockle fishing, all of which have increased since the previous survey in 1988.

Publication of the RSPB findings was timed to coincide with the report by the House of Commons Environment Committee on coastal zone protection and planning—the first in-depth Parliamentary study of coastal problems around Britain.

Its series of recommendations, largely supporting the long-held RSPB view that existing coastal management and planning structures are “wholly inadequate and uncoordinated,” were broadly welcomed by the society.

Mr. Phil Rothwell, RSPB senior conservation officer, said: “The report strongly contradicts the previous Government view that existing protection arrangements are working ‘extremely well.’ We look forward to the new Government fully implementing the recommendations.”

Mr. Ian McCall, RSPB conservation officer in Scotland, said: “Estuaries are a vital part of Scotland’s most precious natural heritage, the coast. Solutions must be found to what is one of the most pressing national environmental issues of our time.”

The RSPB claims estuaries are among the most threatened habitats in Britain, stressing that more than two million waterfowl rely on them for feeding and roosting in winter—with many more stopping off in spring and autumn.

The top 10 British river mouths most threatened with permanent damage are the Medway, Dee, Thames, Wyre, Taff-Ely, Stour, Humber, Southampton Water, Portsmouth Harbour and Loch Ryan.

In Scotland the nine worst affected are Rough Firth, Auchencairn Bay, Kirkeudbright Bay and Wigton Bay, all in the Solway; Loch Ryan, Inner Clyde, Cromarty Firth, Inner Moray Firth and the Forth.

#### **MP Committee Calls for Fundamental Reforms**

92WN0515B London *THE DAILY TELEGRAPH*  
in English 29 Apr 92 p 7

[Article by Charles Clover]

[Text] Centuries of weak laws and bad planning has led to failure by governments to protect Britain’s coastline from development, an all-party select committee of MPs said yesterday.

The environment committee calls for fundamental reforms in the protection of coast and estuaries which

would make it far harder for developments such as the Cardiff Bay, Severn and Usk barrages to win approval.

They would also restrict the fishing and fish farming industries, and marine sand and gravel extraction around Britain’s coasts.

A major change recommended by the committee is that powers should be centralised under a “coastal zone unit” in the Department of the Environment, which would draw up a national coastal strategy.

Another recommended change is that responsibility for coastal defences—increasingly important in view of projected sea-level rises—should be taken from the Ministry of Agriculture and given to the Department of the Environment.

The committee is disappointed by the lack of progress in the seven years since it told the Government that marine nature reserves were inadequate and should be improved. It calls for a system like the present sites of scientific interest on land to be extended below the high water mark.

It criticises the role of the Crown-Estate as landlord and quasi-planning authority of the sea bed and recommends that the landlord role be subjected to the planning system.

The root of many of the development pressures facing the coastline, says the committee, lies in the division of responsibilities between planning authorities at sea and on land. It suggests that local authority planning powers could be extended below the tide mark.

The MPs also call for legislation to be updated, the planning system reviewed and an internationally-respected system called “coastal zone management” adopted as the way of resolving conflicts.

They also call for fish farming to be made subject to planning control by local authorities, greater effort to be made in disposing of sewage sludge and colliery spoil, and the needs of the fishing industry to be balanced with the interests of wildlife conservation.

The report was welcomed by English Nature, the Government conservation body. “It may be the turning point in halting the degradation of the coast,” said Mr. Chris Stevens, head of its coastal task group.

Dr. Bob Earll of the Marine Conservation Society said: “Coasts have for far too long been on the edge of everyone’s responsibility rather than a focus for action. The committee’s report makes it clear that the Government needs to provide a lead.”

- The salt marshes which form the South-East of England’s last remaining wilderness are being eroded faster than before, according to research published yesterday by English Nature.

A 15-year study of the coast between Felixstowe, Suffolk, and the Isle of Sheppey in Kent found that up to half the salt marsh had disappeared due to coastal erosion. Worst affected were the Crouch, Orwell and Stour estuaries.

The report said the marshes and the wildlife that depends on them can only be saved if some land is surrendered to the sea and the marshes allowed to move inland.

#### **Main Proposals**

- Wildlife sites should be protected by new sites of special scientific interest (SSSIs) below high water mark;
- Planning around coast should be given to new unit at Department of Environment.
- A national coastal strategy should be drawn up;
- Coastal defence should be removed from the Ministry of Agriculture and farmland allowed to be reclaimed by the sea as "soft defences" and wildlife habitats;
- Local authorities should take over planning below the tide mark from the Crown Estate. Fish farms should be subject to planning control;
- Controls should be placed on sand and gravel extraction and dumping of colliery waste and sewage sludge at sea.